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28	RESERVED
29	AUDIO CODEC ALC892
30	AUDIO CONNECTOR
31	LAN RTL8111E/8105E
32	SUPERIO ITE8728
33	SUPERIO PS2/COM
34	SUPERIO FAN CONTROL
35	USB PORT
36	24PIN POWER CONN&FP
37	RESUME RESET LOGIC
38	ACPI POWER CONTROL
39	LINEAR POWER
40	MEMORY DC-DC Conver
41	VTT DC-DC Conver
42	VCORE VREG1
43	VCORE VREG2
44	OVER VOLTAGE
45	RESERVED FOR AMT POWER
46	USB3.0 HOST CONTROLLER
47	BOM

IH61D-MHS REV 0.6 Market Name:H61M

CPU:

Intel Sandy/Ivy Bridge processors in LGA1155 Package 95W

System Chipset:

Sugar Point H61

Main Memory:

Dual Channel/DDR-III*4(Max 16GB) 1066/1333
DDR3-1333 /1066 /800

Onboard Device:

Super I/O:IT8728
LAN:Realtek 8111E
HD Codec:ALC662 3 jacks
PCI BRIDGE:IT8893E CX
USB3.0 CONTROLLER:ASM1042

Power solution:

CPU Voltage Regulators:3phase by uP6235
AXG voltage Regulators:1phase by uP6235
VTT voltage Regulators:1Phase by UP6109V by UP6262
DDR voltage Regulators:1Phase by FP6109V by UP6262

Expansion Slots:

PCI EXPRESS 16X SLOT*1
PCI EXPRESS 1X SLOT*1
PCI SLOT*2

REAR IO:

PS/2 +2 layer USB2.0 Port
HDMI Port
DVI Port
VGA Port
2 layer USB3.0 + Gb RJ-45 Ports
Audio Jackets

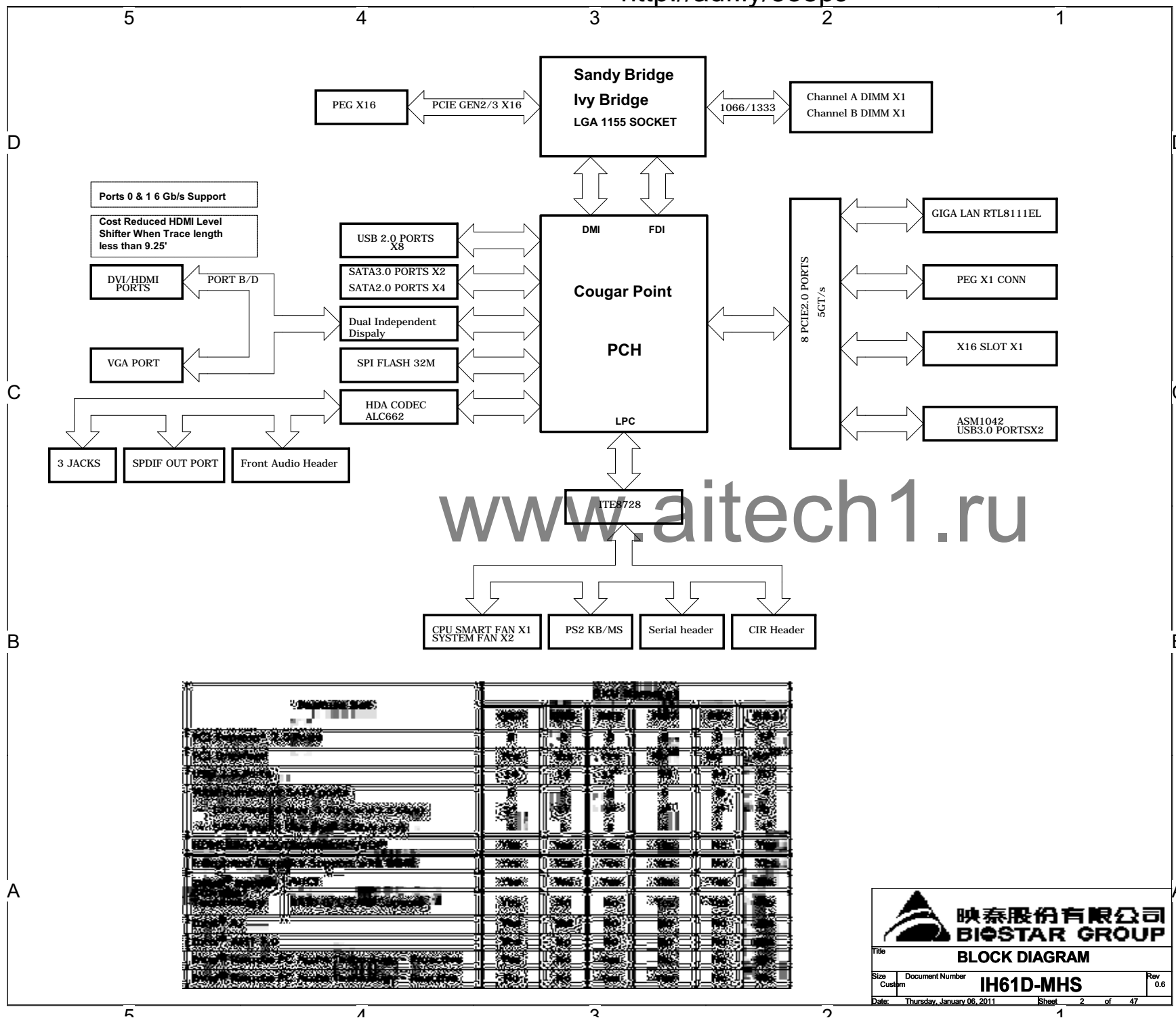
Front I/O:

4SATA2 FOR H61
USB Header * 2
CPU /System1
Serial header
Parallel Header
CIR Header
Front Audio Header & SPDIF Out 1

HW Engineer		Date	
HW Leader1		Date	
HW Leader2		Date	

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V0.6 to 0.61

1. CR28 change to 110ohm
2. Remove SATA3 and SATA4
3. PCI2.A26 net name change to PCI2_IDSEL
4. PWRGD_50 CONTROL PONRST#
5. TR10 reserved (42.2K)
6. All MOSFET value modified
7. UU3.3 connected to V_1P8_SFR
8. RN2 and RN3 dummy
9. PWM modified TBD

Vcore

PR34 --> 510R

PR12, 14, 16 --> 36KR

PC11 --> 68pF

PR38 --> 39KR

BCC27, BCC26, BCC11, BCC12, BCC13, BCC14, BCC24, BCC23 --> NC

PCT11 --> NC


VGT

PR47 --> 3.6KR


PC64 --> 33pF

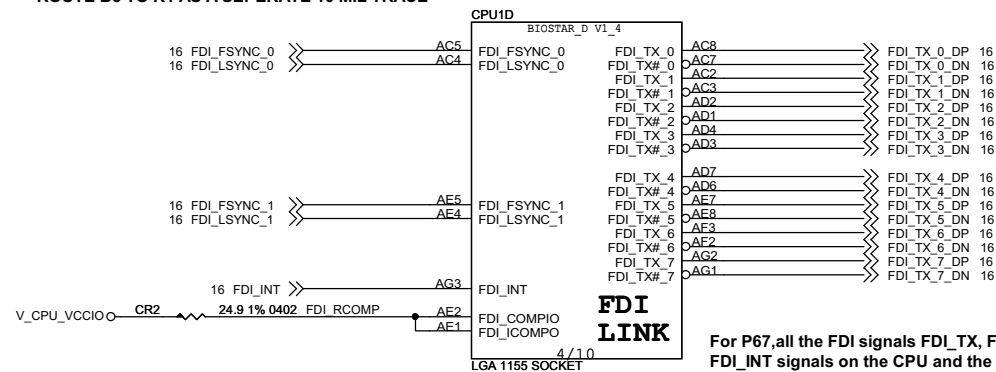
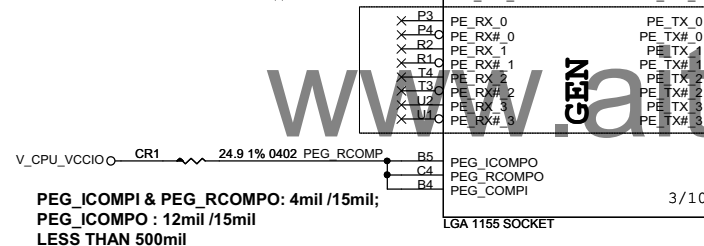
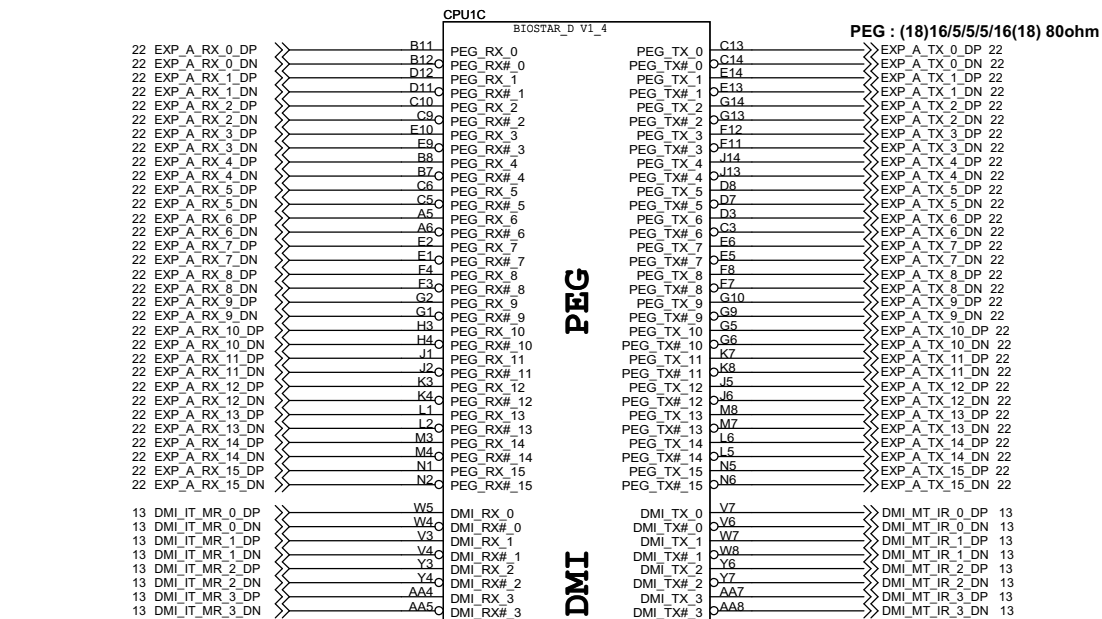
PR57 --> 8.2KR

10. ATXPWR3 value modified to ATXPWR2
11. CODEC change to ALC662
12. NI PCT11
13. UU3 change to 6137E


		映泰股份有限公司 BIOSTAR GROUP	
Title		CHANGE LIST	
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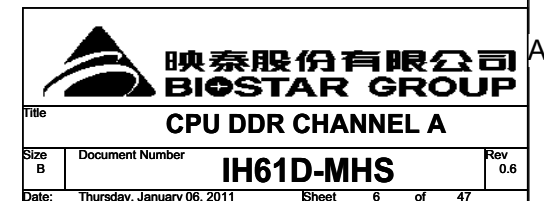
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Title CK505 CLOCK GENERATOR		
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For P67,all the FDI signals FDI_TX, FDI_FSYNC, FDI_LSYNC and FDI_INT signals on the CPU and the PCH can be left as No connect for solutions not using integrated graphics./DG98

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Title CPU PCIEX16/DMI/FDI		
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DQ REMAPPING IMPLEMENTED
TO IMPROVE BREAKOUT AND
MINIMIZE CH-2-CH COUPLING

DQ REMAPPING IMPLEMENTED
TO IMPROVE BREAKOUT AND
MINIMIZE CH-2-CH COUPLING

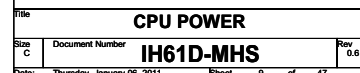
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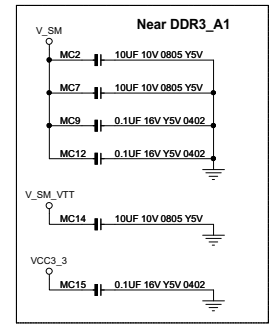
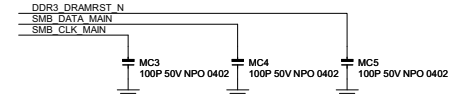
DDR_1
2/10

LGA 1155 SOCKET

		
Title		
CPU DDR CHANNEL A		
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5

4

3

2

1

D

D

C

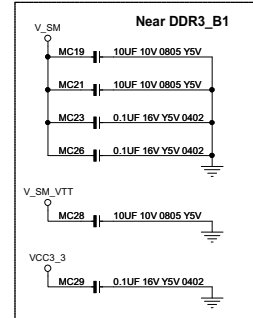
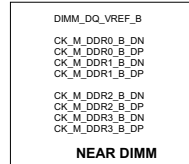
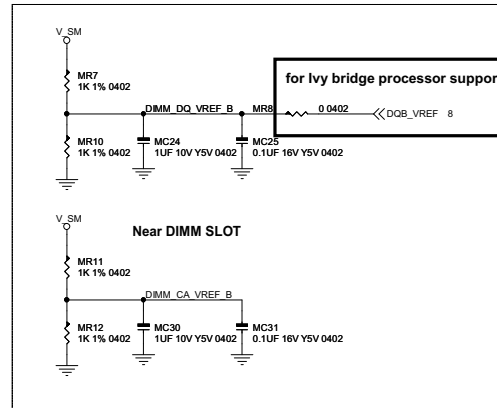
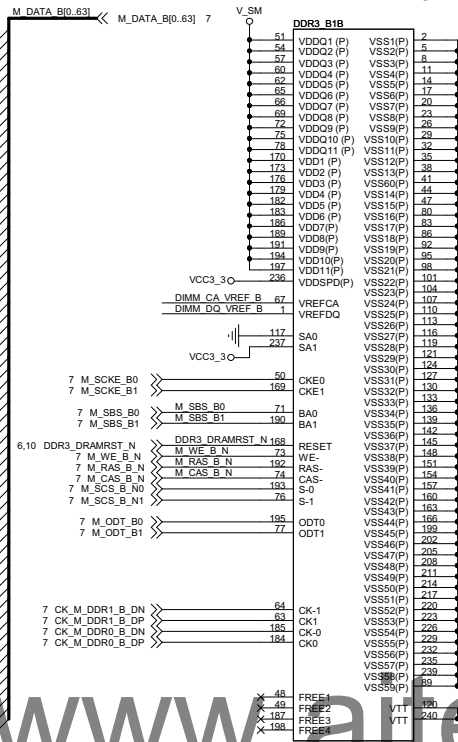
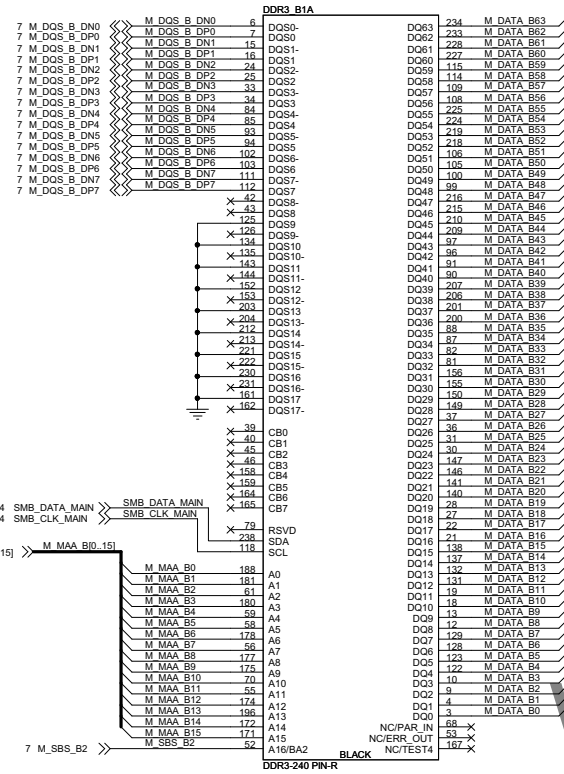
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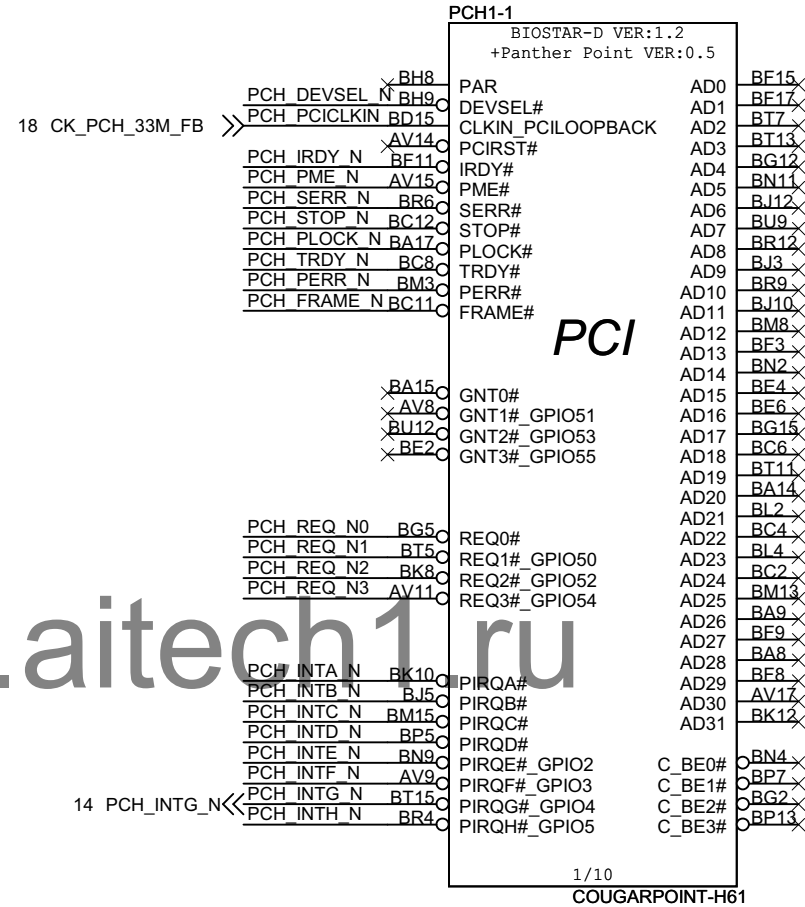
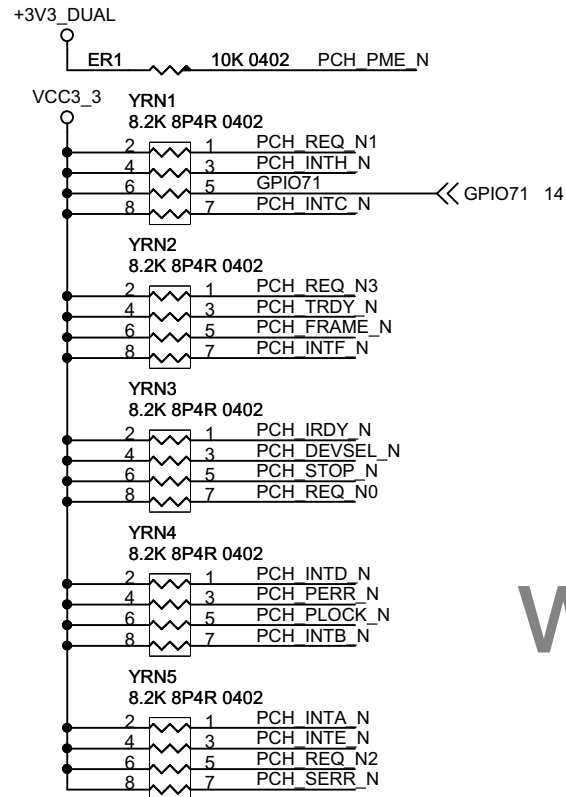
B

B

A

A




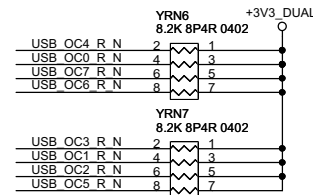
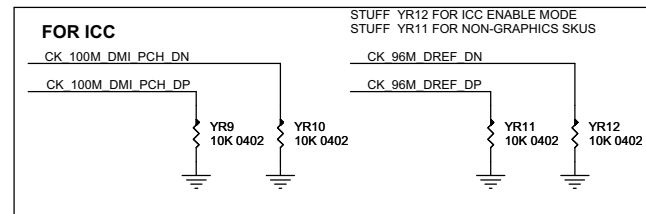
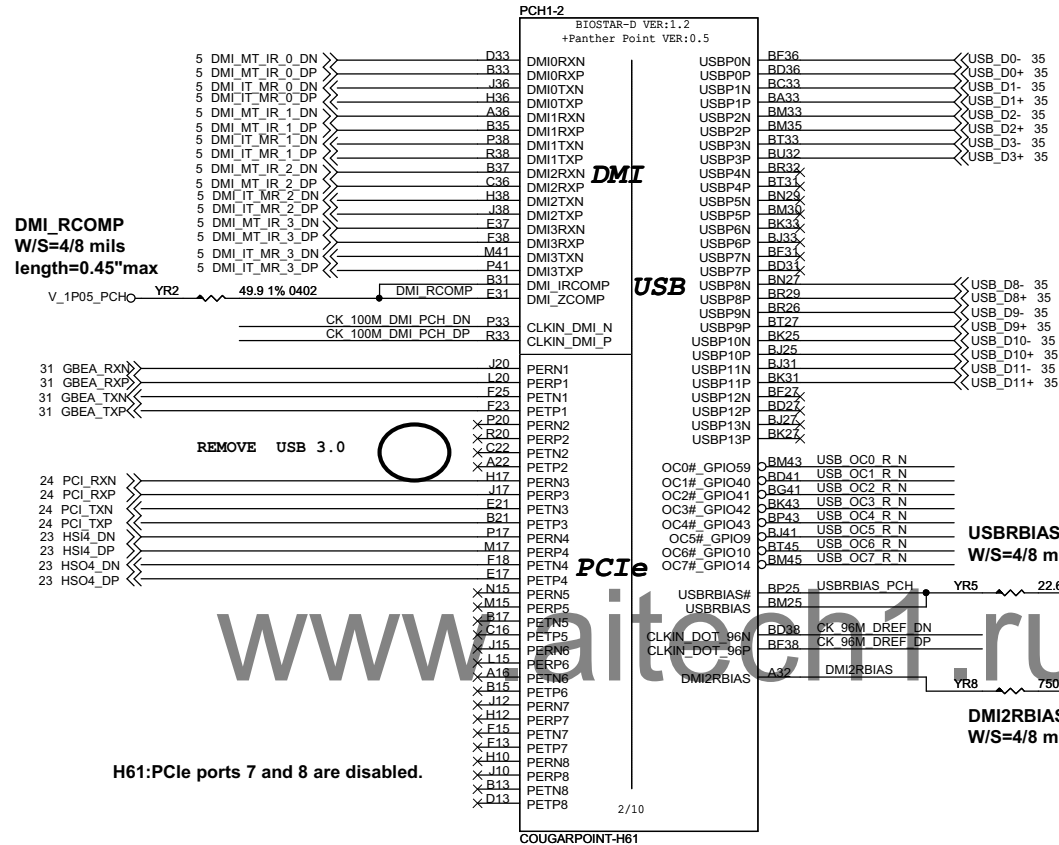


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WEAK INTERNAL PULLUPS ON GNT*.DEFAULT SPI BOOT DEVICE

GNT1	GNT0/SATA1GP	BOOT DEVICE
0	0	LPC
0	1	NANO
1	0	PCI
1	1	SPI

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Title PCH PCI		
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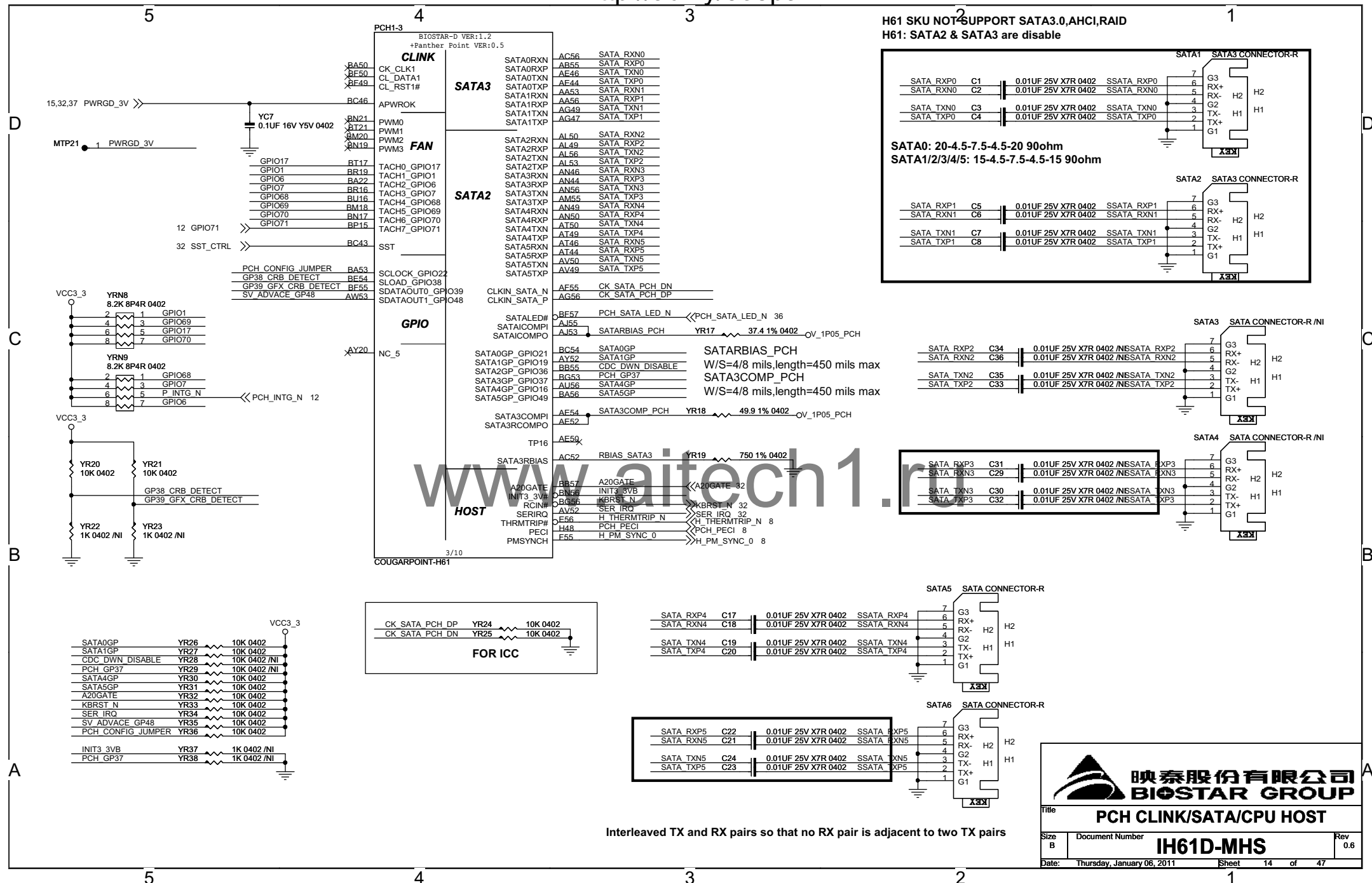


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Title **PCH DMI/PCIE/USB**

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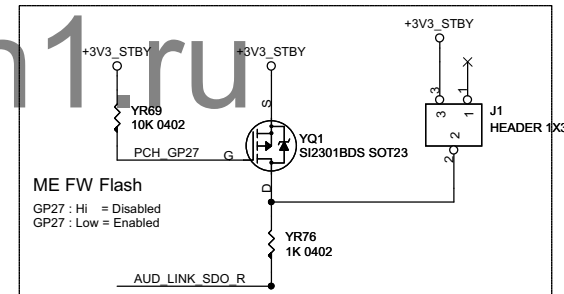
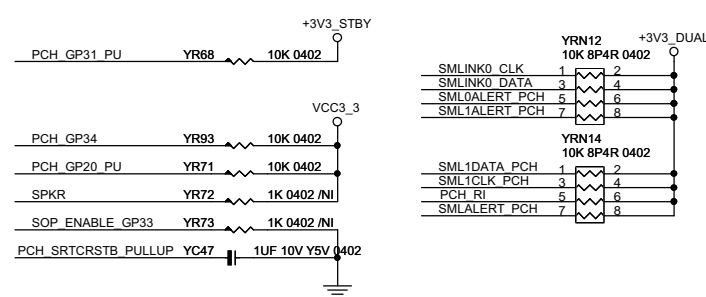
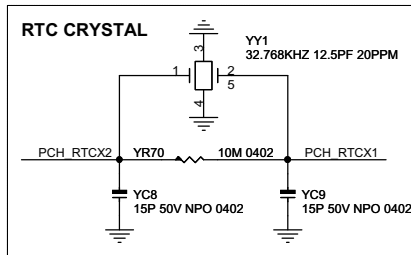
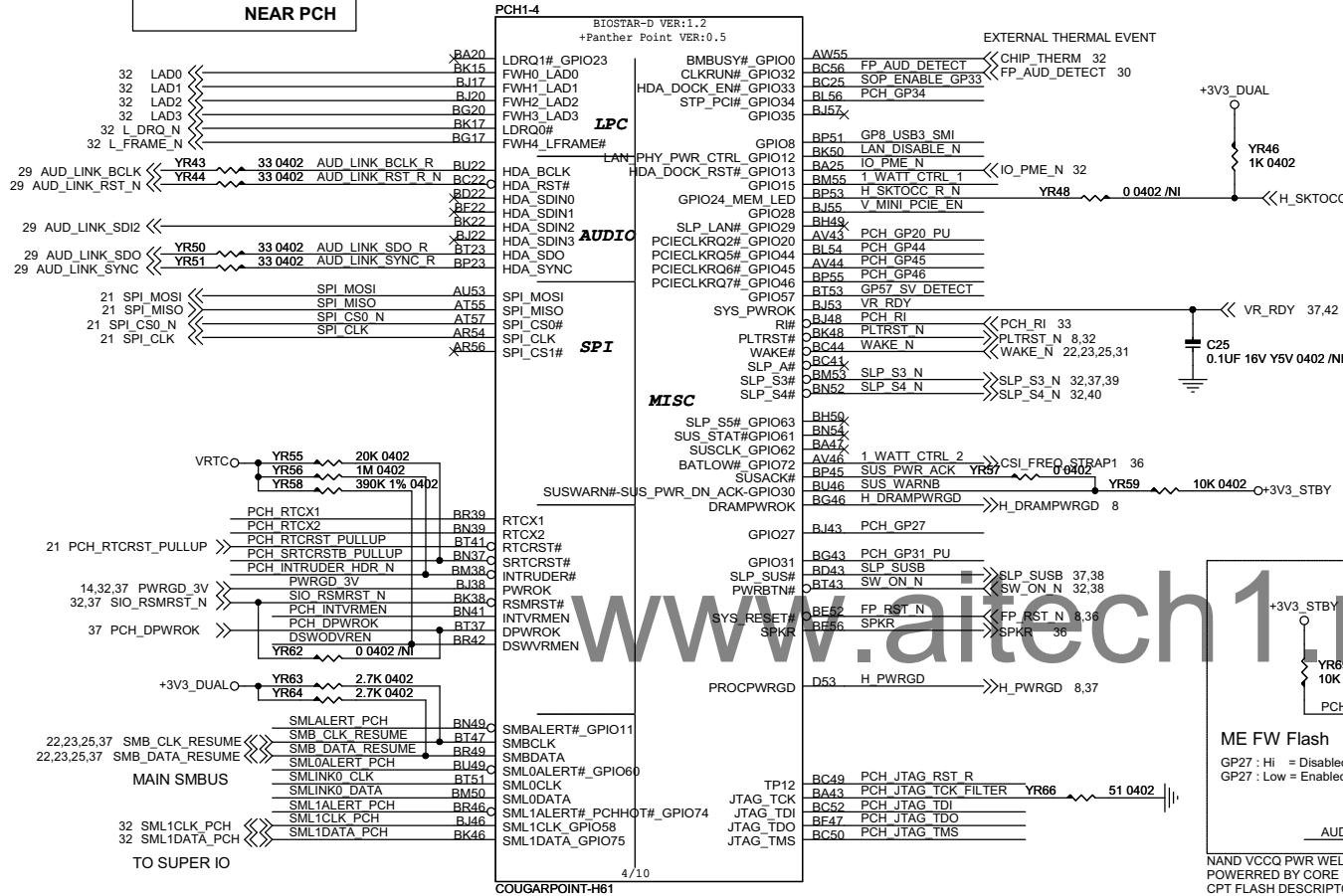
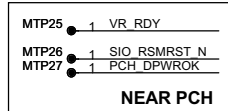
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4

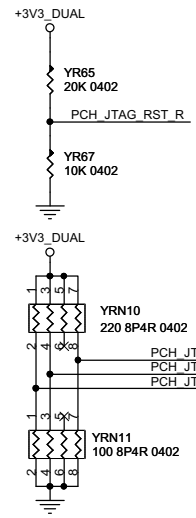
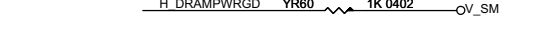
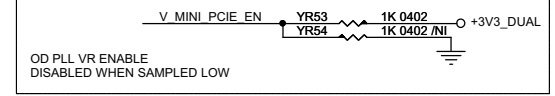
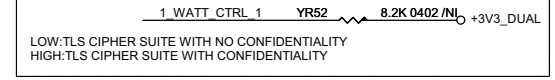
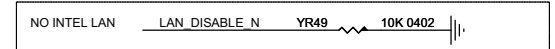
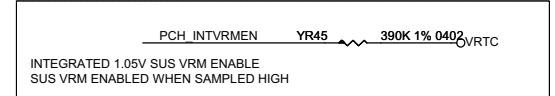
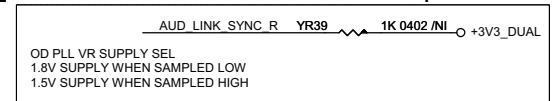
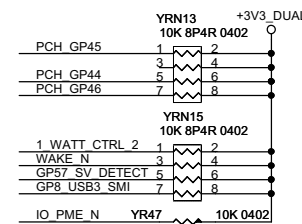
3

2

1



NAND VCCQ PWR WELL SEL
POWERED BY CORE WHEN SAMPLED LOW,STBY WHEN SAMPLED HI
CPT FLASH DESCRIPTOR OVERRIDE,HI FOR OVERRIDE



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Title **PCH LPC/HDA/SPI/MISC**

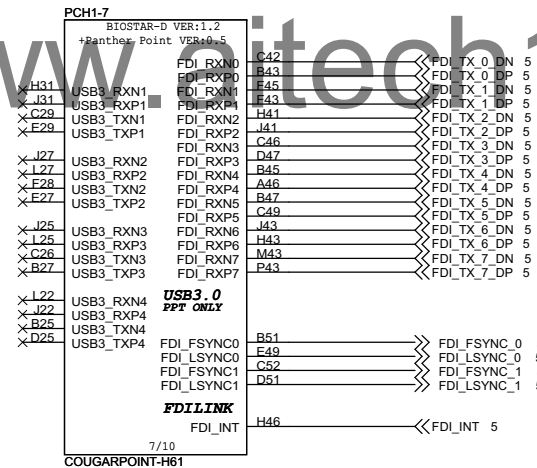
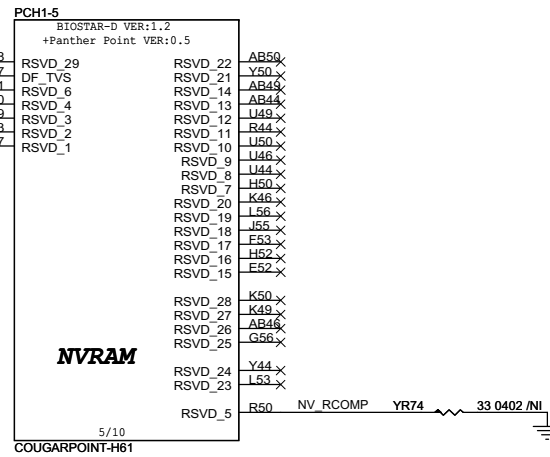
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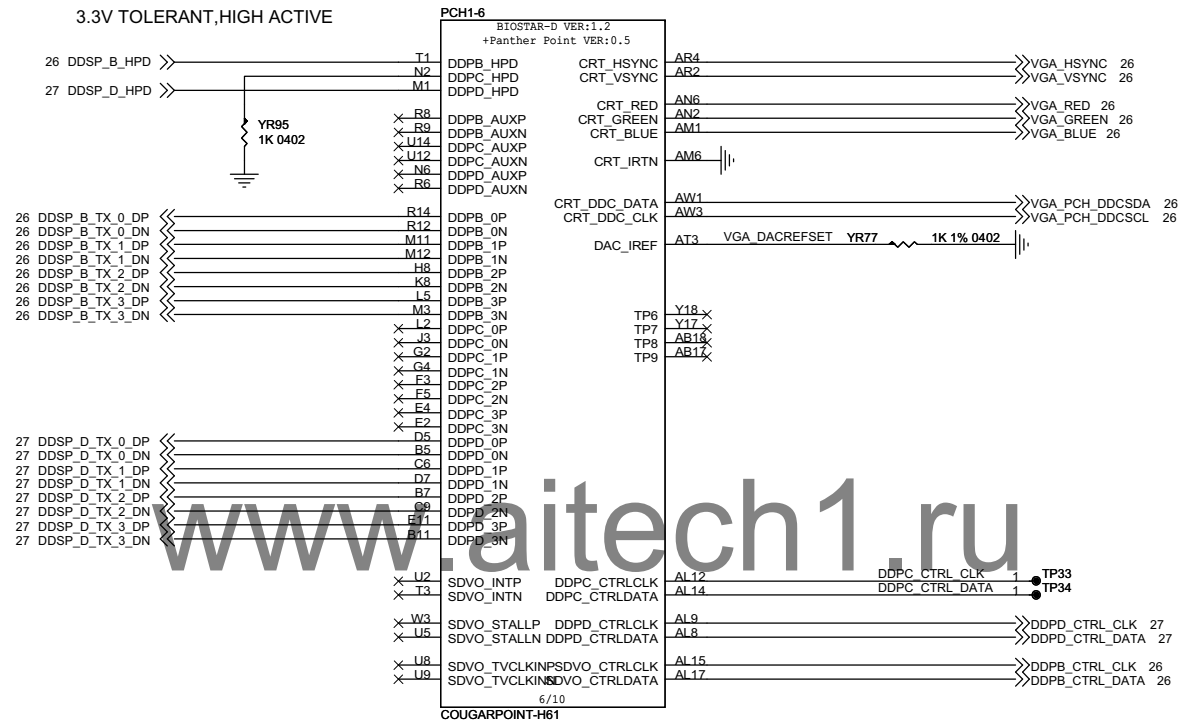
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DMI/FDI Termination Select

H:For Sandy Bridge

L:For Ivy Bridge



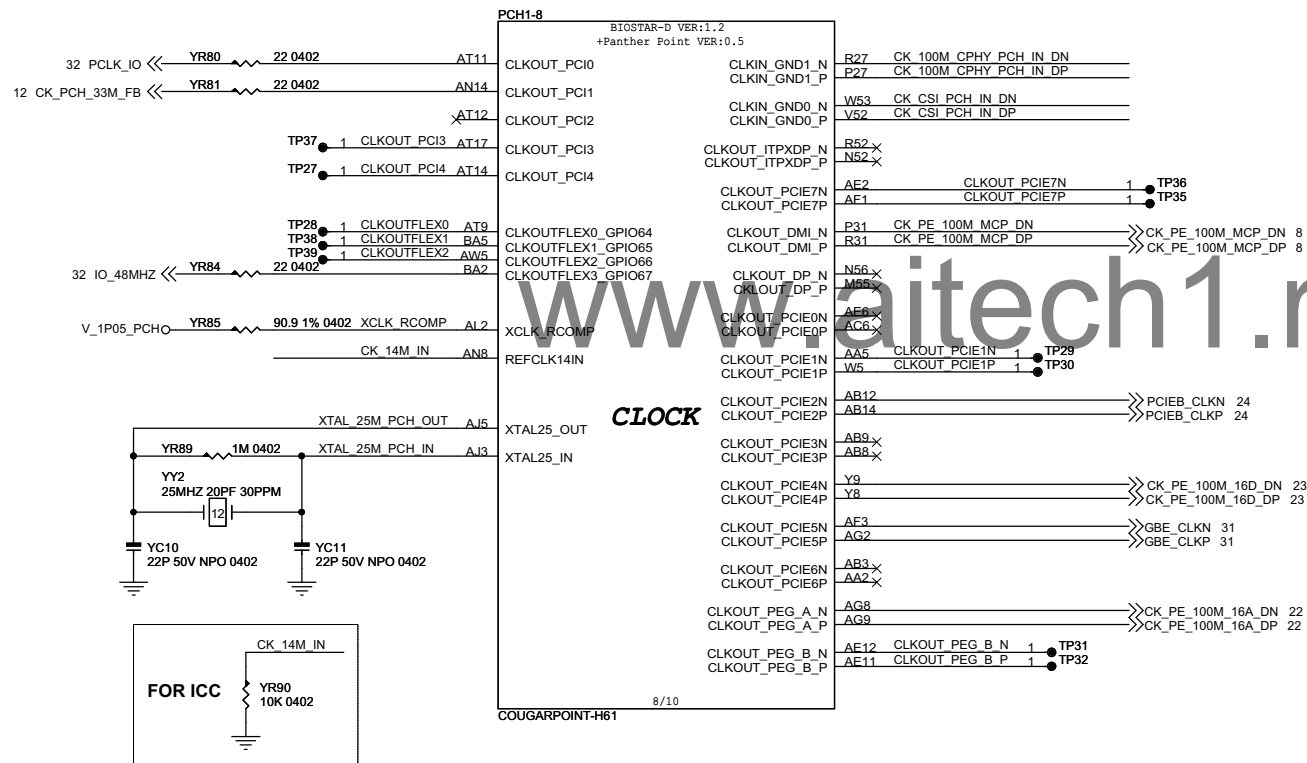


	FUNCTION
PORTB	DVI OR SDVO
PORTC	DISPLAY PORT
PORTD	HDMI/DVI/eDP

REMOVE LEVEL SHIFTER WHEN TRACE
LENGHT LESS THAN 9.25 INCHES

If DisplayPort interface is not implemented,
the Main Link, aux channel differential
signals and HPD signals can be left as No
Connects./DG108

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Title PCH VGA/DISPLAY PORT		
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W/I/S: 4/6/18


FOR CPU ITP PORT(0)

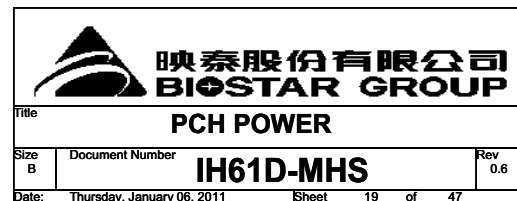
FOR PCH PCIE DEVICE(1)

FOR CPU BCLK(0)


FOR PCH PCIE DEVICE(1)

FOR CPU PCIE X 16 DEVICE(0)

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Title		
PCH CLOCK BUFFER		
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File

PCH GND

Size

CusIm

Document Number

IH61D-MHS

Date

Thursday, January 06, 2011

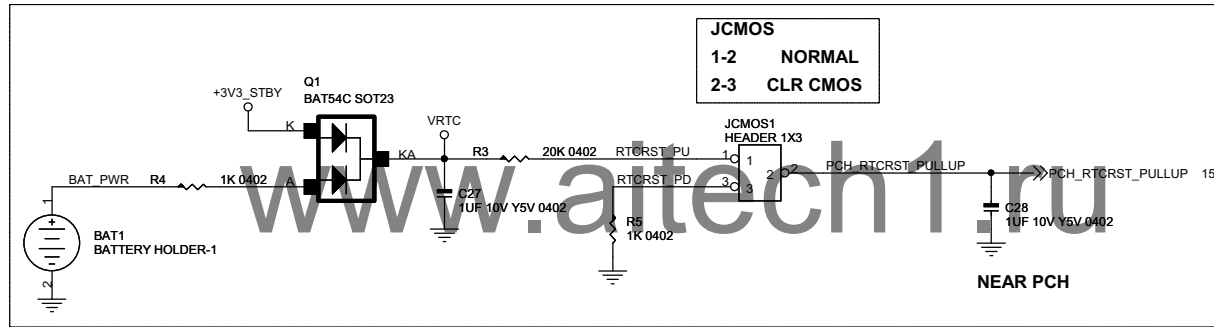
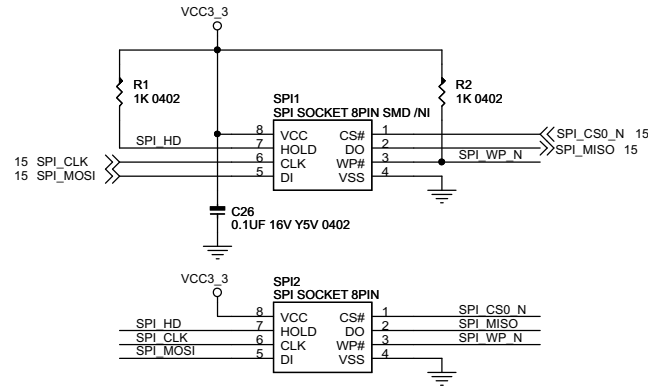
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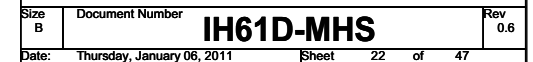
Rev

0.6

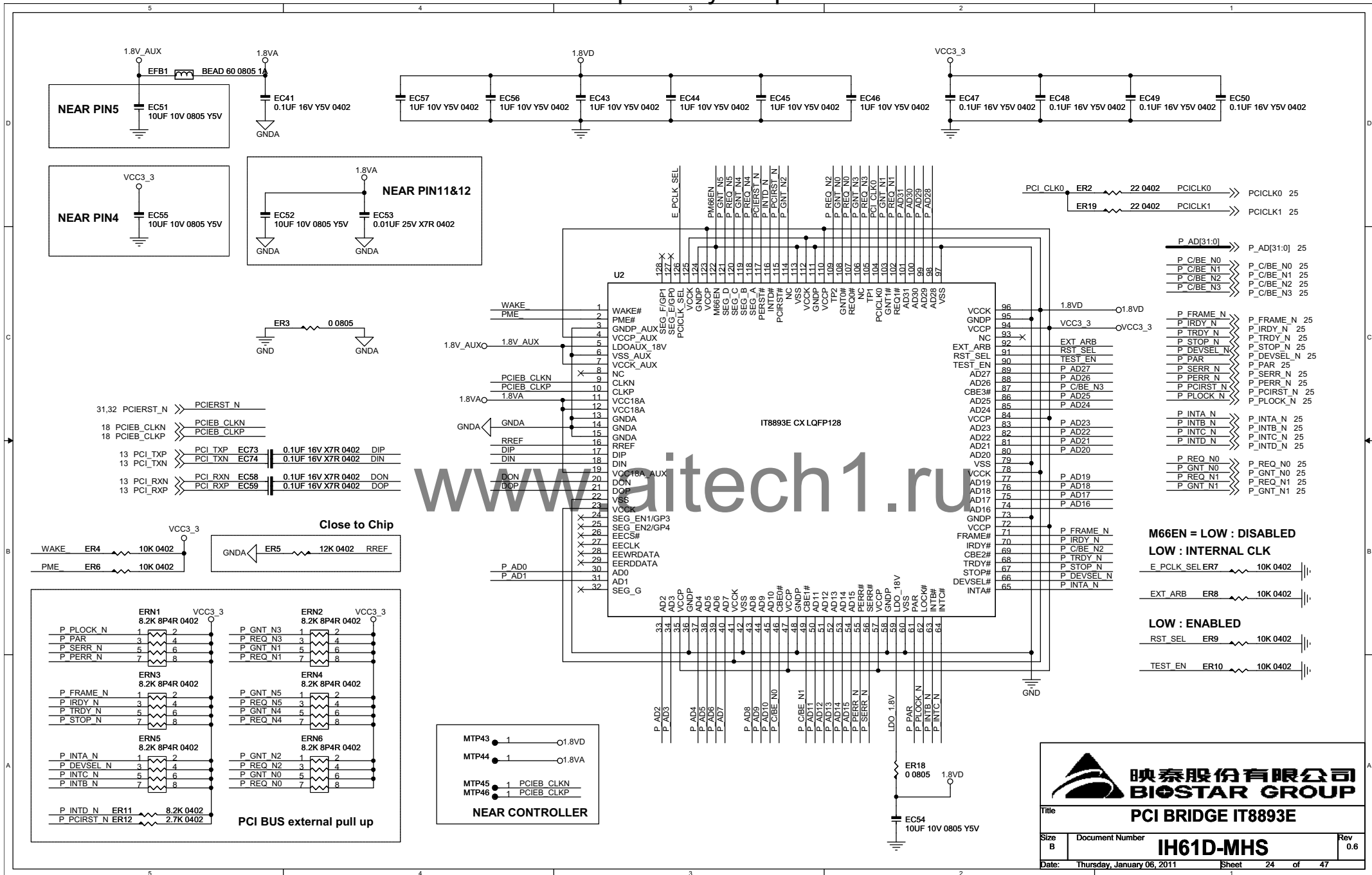
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BC15	VSS_0126	VSS_0007	A26
BC16	VSS_0127	VSS_0007	A26
BC17	VSS_0128	VSS_0008	A26
BC18	VSS_0129	VSS_0008	A26
BC19	VSS_0130	VSS_0010	AA22
BC20	VSS_0131	VSS_0010	AA22
BC21	VSS_0132	VSS_0012	AA22
BC22	VSS_0133	VSS_0012	AA22
BC23	VSS_0134	VSS_0014	AA28
BC24	VSS_0135	VSS_0016	AA28
BC25	VSS_0136	VSS_0016	AA28
BC26	VSS_0137	VSS_0017	AB15
BC27	VSS_0138	VSS_0019	AB40
BC28	VSS_0139	VSS_0019	AB40
BC29	VSS_0140	VSS_0020	AB40
BC30	VSS_0141	VSS_0022	AB41
BC31	VSS_0142	VSS_0022	AB41
BC32	VSS_0143	VSS_0022	AB41
BC33	VSS_0144	VSS_0024	AB47
BC34	VSS_0145	VSS_0026	AC22
BC35	VSS_0146	VSS_0027	AC26
BC36	VSS_0147	VSS_0027	AC26
BC37	VSS_0148	VSS_0029	AC28
BC38	VSS_0149	VSS_0029	AC28
BC39	VSS_0150	VSS_0030	AC28
BC40	VSS_0151	VSS_0032	AC28
BC41	VSS_0152	VSS_0032	AC28
BC42	VSS_0153	VSS_0034	AE22
BC43	VSS_0154	VSS_0034	AE22
BC44	VSS_0155	VSS_0036	AE28
BC45	VSS_0156	VSS_0036	AE28
BC46	VSS_0157	VSS_0037	AE28
BC47	VSS_0158	VSS_0038	AE41
BC48	VSS_0159	VSS_0040	AE52
BC49	VSS_0160	VSS_0040	AE52
BC50	VSS_0161	VSS_0042	AG11
BC51	VSS_0162	VSS_0042	AG11
BC52	VSS_0163	VSS_0044	AG14
BC53	VSS_0164	VSS_0044	AG14
BC54	VSS_0165	VSS_0046	AG22
BC55	VSS_0166	VSS_0046	AG22
BC56	VSS_0167	VSS_0047	AG28
BC57	VSS_0168	VSS_0049	AG43
BC58	VSS_0169	VSS_0049	AG43
BC59	VSS_0170	VSS_0050	AG46
BC60	VSS_0171	VSS_0050	AG46
BC61	VSS_0172	VSS_0052	AG49
BC62	VSS_0173	VSS_0052	AG49
BC63	VSS_0174	VSS_0054	AG53
BC64	VSS_0175	VSS_0056	AG56
BC65	VSS_0176	VSS_0056	AG56
BC66	VSS_0177	VSS_0057	AG57
BC67	VSS_0178	VSS_0059	AG57
BC68	VSS_0179	VSS_0059	AG57
BC69	VSS_0180	VSS_0060	AG58
BC70	VSS_0181	VSS_0060	AG58
BC71	VSS_0182	VSS_0062	AL14
BC72	VSS_0183	VSS_0064	AL20
BC73	VSS_0184	VSS_0064	AL20
BC74	VSS_0185	VSS_0066	AL26
BC75	VSS_0186	VSS_0066	AL26
BC76	VSS_0187	VSS_0067	AL36
BC77	VSS_0188	VSS_0069	AL41
BC78	VSS_0189	VSS_0069	AL41
BC79	VSS_0190	VSS_0070	AL42
BC80	VSS_0191	VSS_0074	AM22
BC81	VSS_0192	VSS_0075	AM27
BC82	VSS_0193	VSS_0074	AM27
BC83	VSS_0194	VSS_0076	AN12
BC84	VSS_0195	VSS_0076	AN12
BC85	VSS_0196	VSS_0077	AN17
BC86	VSS_0197	VSS_0078	AN18
BC87	VSS_0198	VSS_0079	AN18
BC88	VSS_0199	VSS_0080	AN20
BC89	VSS_0200	VSS_0080	AN20
BC90	VSS_0201	VSS_0081	AN24
BC91	VSS_0202	VSS_0082	AN24
BC92	VSS_0203	VSS_0084	AN31
BC93	VSS_0204	VSS_0084	AN31
BC94	VSS_0205	VSS_0086	AN34
BC95	VSS_0206	VSS_0086	AN34
BC96	VSS_0207	VSS_0087	AS20
BC97	VSS_0208	VSS_0089	AS22
BC98	VSS_0209	VSS_0089	AS22
BC99	VSS_0210	VSS_0090	AS28
BC100	VSS_0211	VSS_0090	AS28
BC101	VSS_0212	VSS_0092	AT14
BC102	VSS_0213	VSS_0094	AT14
BC103	VSS_0214	VSS_0094	AT14
BC104	VSS_0215	VSS_0096	AT22
BC105	VSS_0216	VSS_0096	AT22
BC106	VSS_0217	VSS_0243	AS27
BC107	VSS_0218	VSS_0245	AS27
BC108	VSS_0219	VSS_0245	AS27
BC109	VSS_0220	VSS_0247	AS27
BC110	VSS_0221	VSS_0247	AS27
BC111	VSS_0222	VSS_0248	AN
BC112	VSS_0223	VSS_0248	AN
BC113	VSS_0224	VSS_0250	AT13
BC114	VSS_0225	VSS_0250	AT13
BC115	VSS_0226	VSS_0252	AT14
BC116	VSS_0227	VSS_0253	AT22
BC117	VSS_0228	VSS_0253	AT22
BC118	VSS_0229	VSS_0255	AT24
BC119	VSS_0230	VSS_0257	AT24
BC120	VSS_0231	VSS_0257	AT24
BC121	VSS_0232	VSS_0257	AT24
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BC123	VSS_0234	VSS_0257	AT24
BC124	VSS_0235	VSS_0257	AT24
BC125	VSS_0236	VSS_0257	AT24
BC126	VSS_0237	VSS_0257	AT24
BC127	VSS_0238	VSS_0257	AT24
BC128	VSS_0239	VSS_0257	AT24
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BC132	VSS_0243	VSS_0257	AT24
BC133	VSS_0244	VSS_0257	AT24
BC134	VSS_0245	VSS_0257	AT24
BC135	VSS_0246	VSS_0257	AT24
BC136	VSS_0247	VSS_0257	AT24
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MTP60 1 PCH_RTCRST_PULLUP

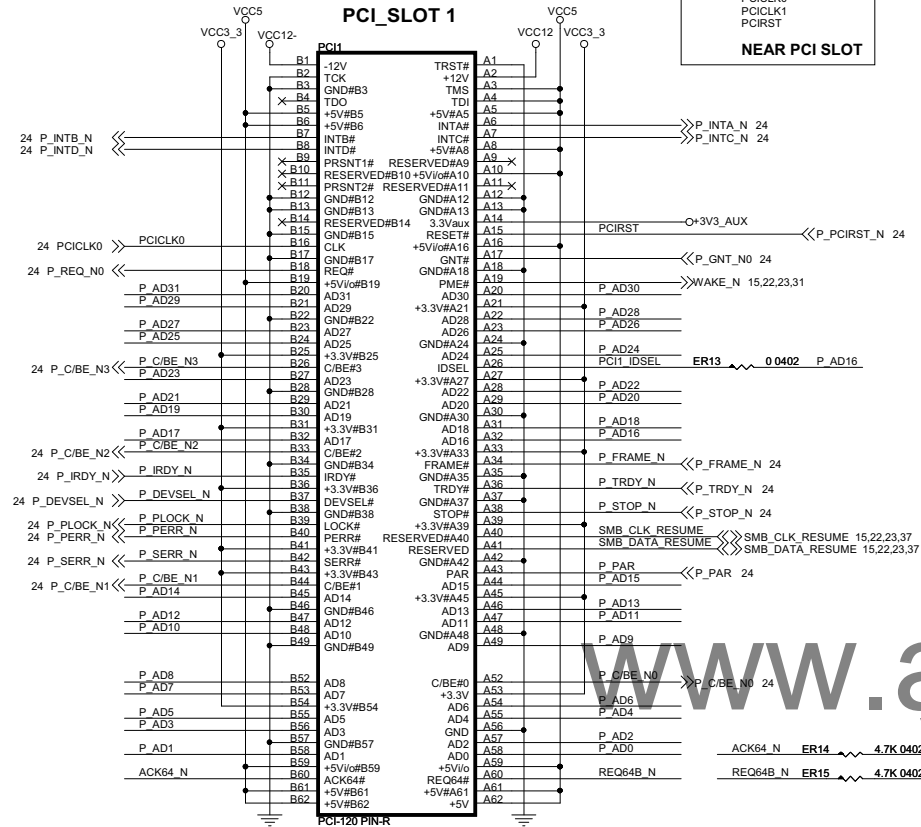




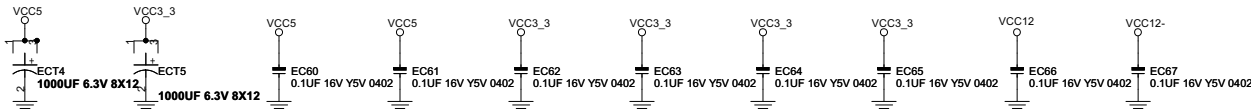
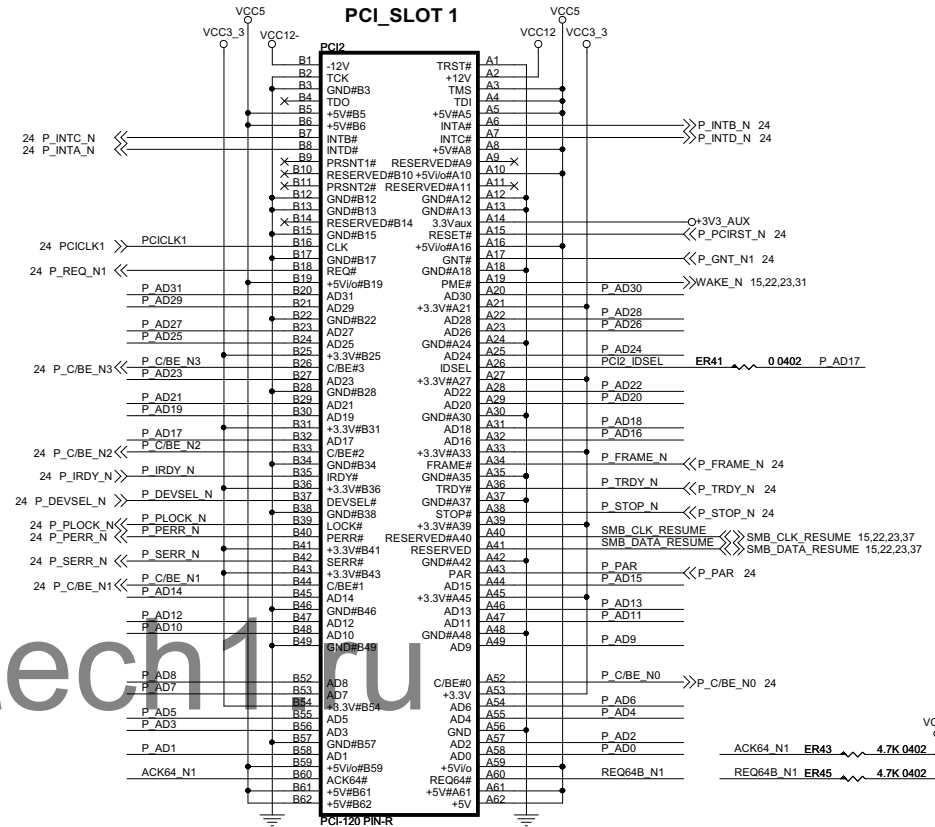


24 P_AD[31:0] <<< P_AD[31:0] IDSEL:AD16, INT:ABCD, REQ0 & GNT0, PCICLK0


PCICLK0
PCICLK1
PCIRST
NEAR PCI SLOT



IDSEL:AD17, INT:DABC, REQ1 & GNT1, PCICLK1

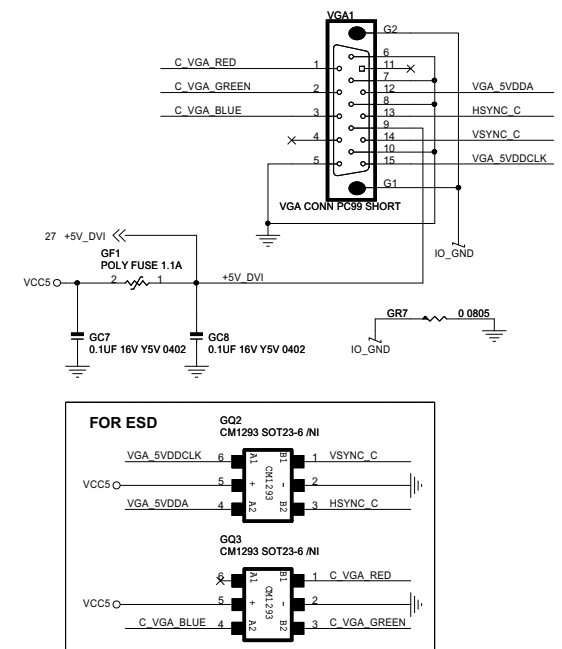


For T-Series-----560UF-S 6.3V 6.3X8 8X12(ELITE)
For NO T-Series-----1000UF 6.3V 8X12

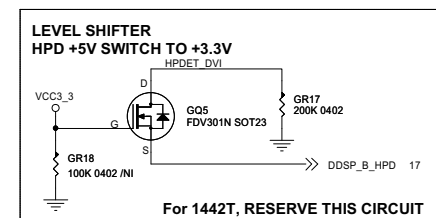
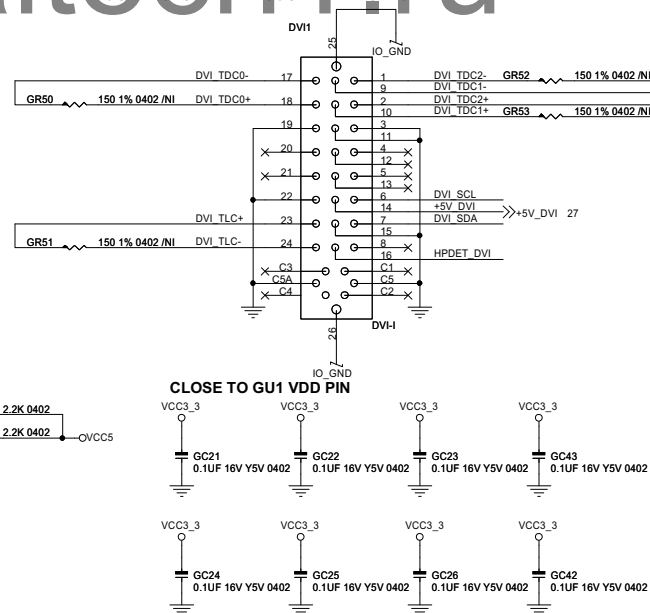


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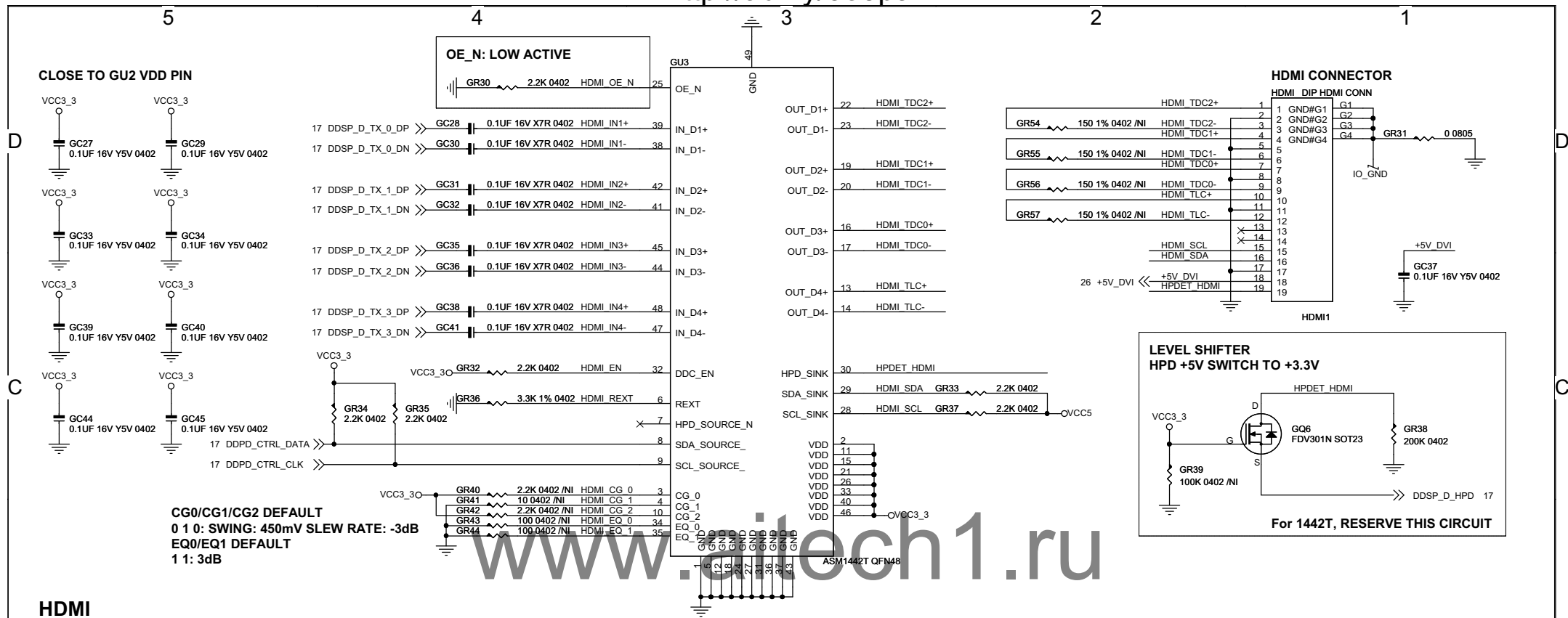
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Size Custom	Document Number IH61D-MHS	Rev 0.6
Date: Thursday, January 06, 2011	Sheet 25	of 47




DVI



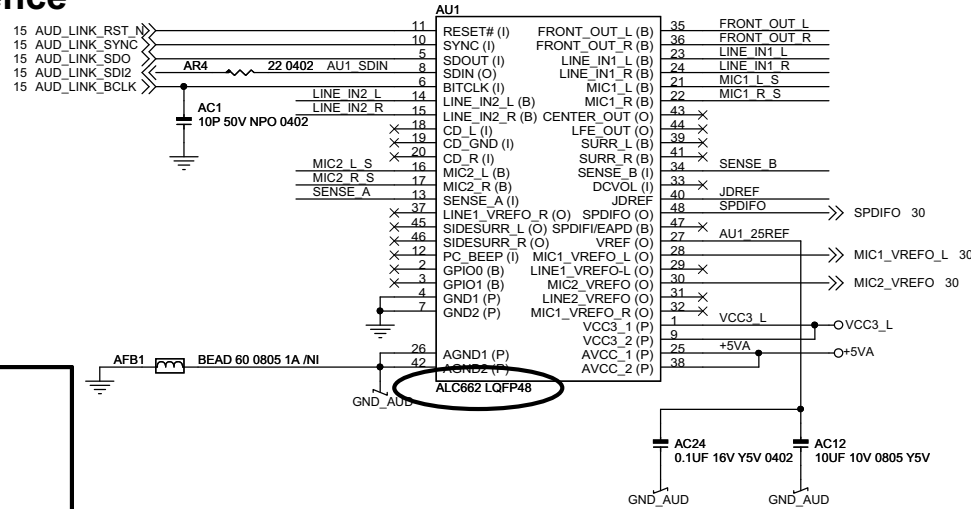
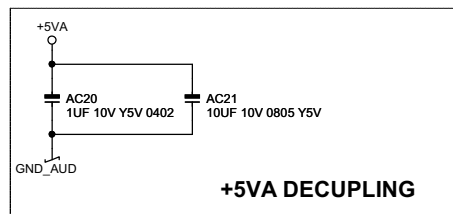
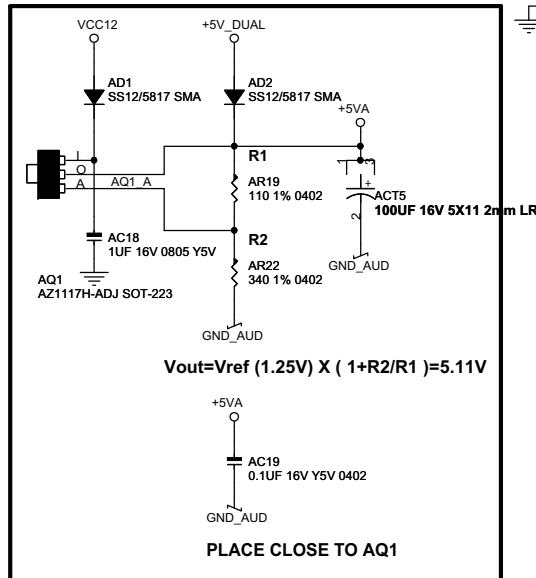
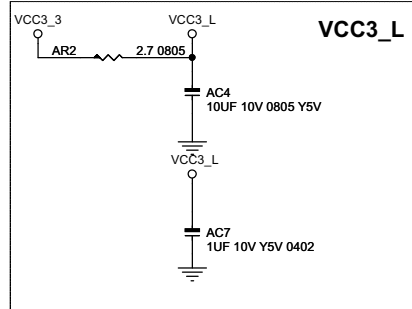
GR25 : NI --> 2.2K ,Recomanded by Asmedia



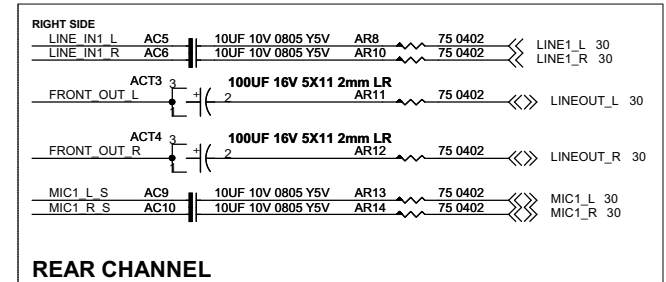
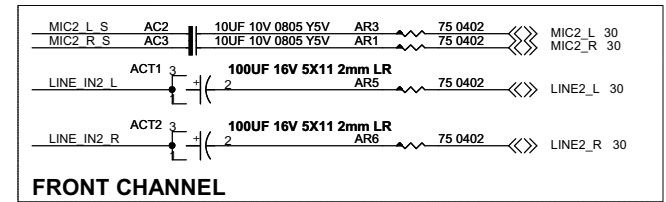
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Size B	Document Number IH61D-MHS	Rev 0.6
Date: Thursday, January 06, 2011		Sheet 28 of 47

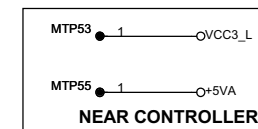
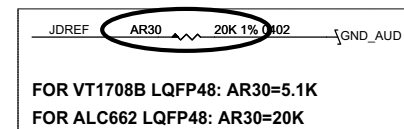
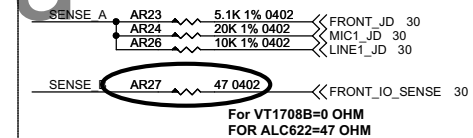
AUDIO PART: A+Reference



NETIN: 100UF 16V 5X11 2MM LR 6.3X5
BOM: 100UF 16V 5X11 2mm LR
100UF-S 16V 6.3X8 ELITE



CD IN CONNECTOR



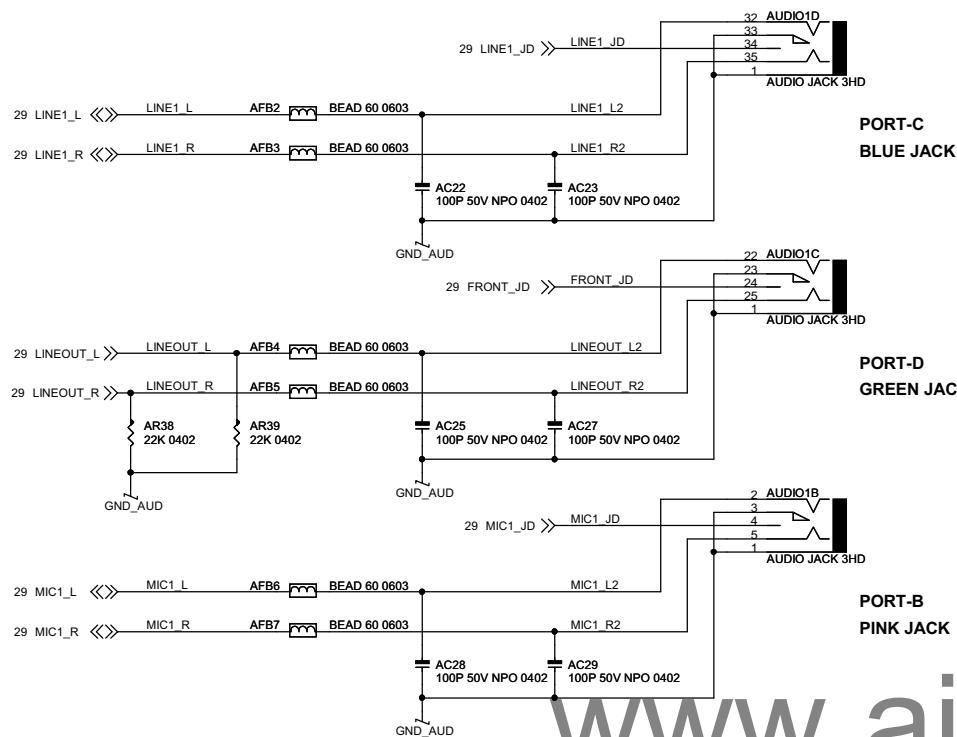
映泰股份有限公司
BIOSTAR GROUP

Title: **CODEC ALC662**

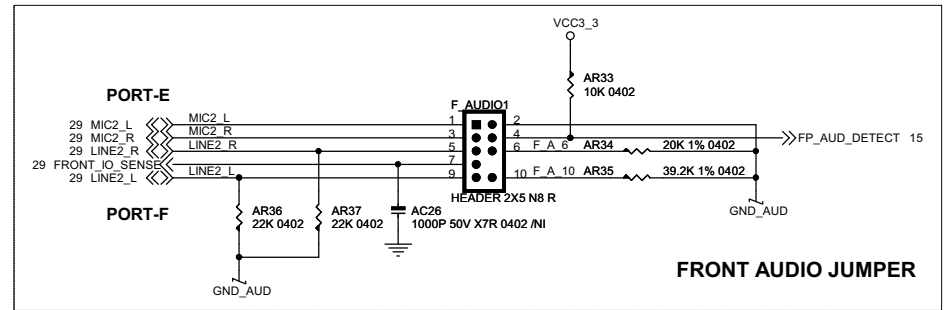
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Rev: **0.6**

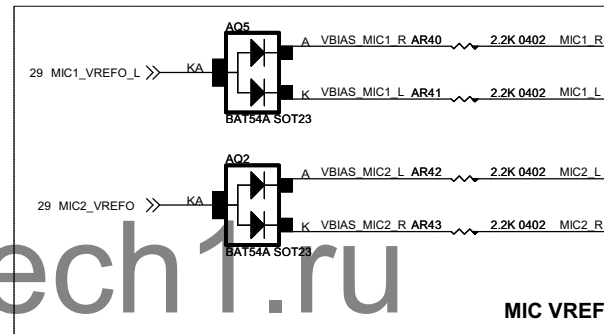
Date: Thursday, January 06, 2011 Sheet 29 of 47



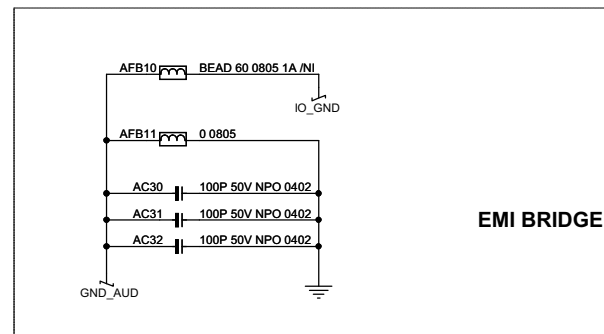
REAR AUDIO JACKS



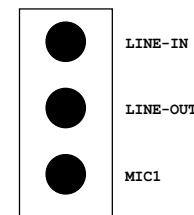
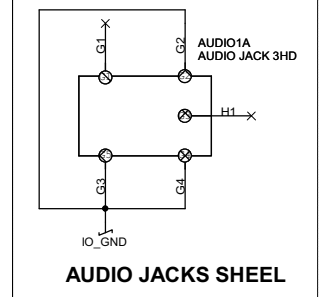
FRONT AUDIO JUMPER



MIC VREF



EMI BRIDGE



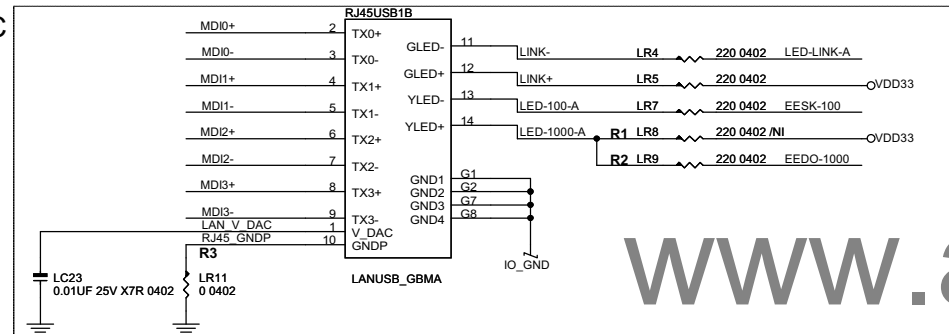
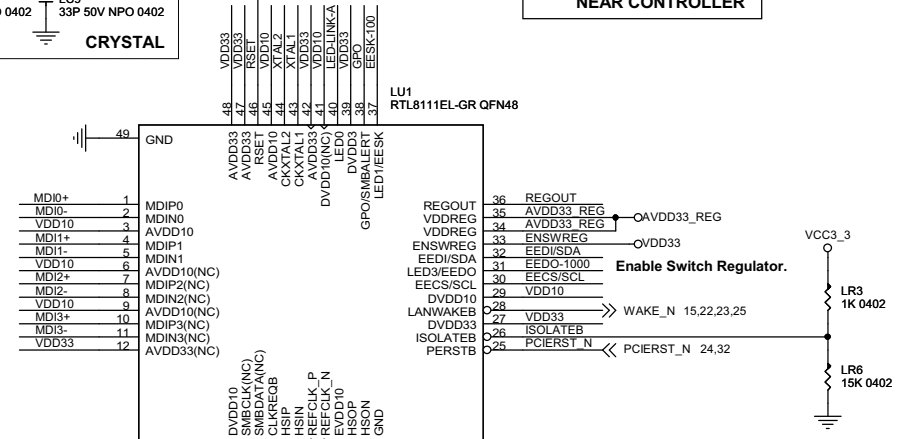
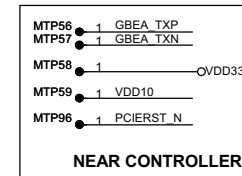
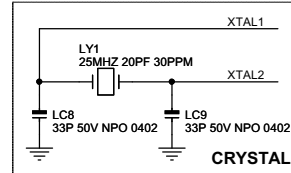
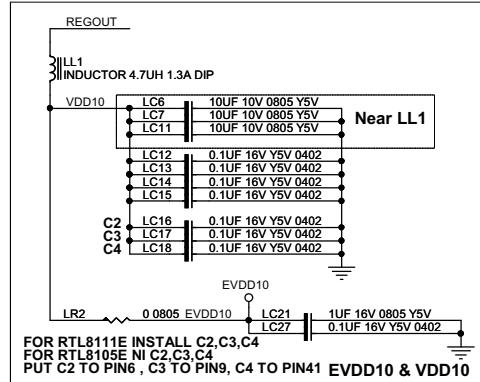
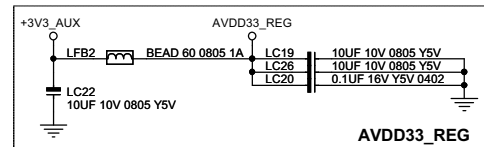
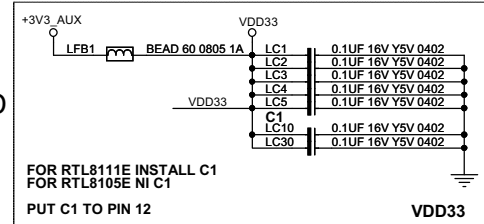
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Title: **AUDIO CONNECTOR**

Size: Custom Document Number: **IH61D-MHS** Rev: 0.6

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LAN PART: L+Reference

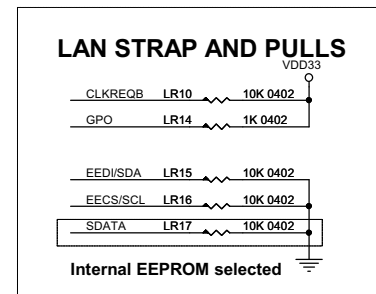
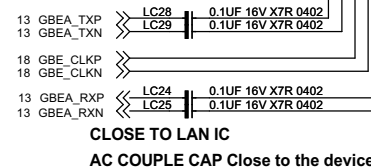
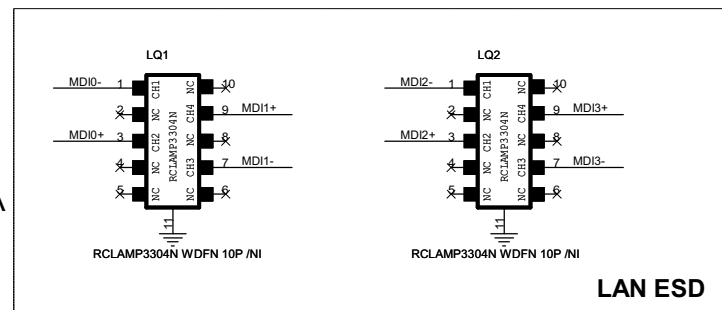


FOR RTL8111E,INSTALL R3 TO 0ohm
FOR RTL8105E, INSTALL R3 TO 0.01UF

FOR RTL8111E,INSTALL R2; NI R1
FOR RTL8105E, INSTALL R1;NI R2

FOR RTL8111E,RJ45USB1 VALUE IS LANUSB_GBMA
FOR RTL8105E, RJ45USB1 VALUE IS RJ45USBA CONN

LAN CONNECTOR



COMPONENT CONTRAST LIST

LAN PARTS	C1	C2	C3	C4	R1	R2	R3	RJ45 CONN
RTL8111E	O	O	O	O	X	O	0ohm	LANUSB_GBMA
RTL8105E	X	X	X	X	O	X	0.01uF	RJ45USBA CONN

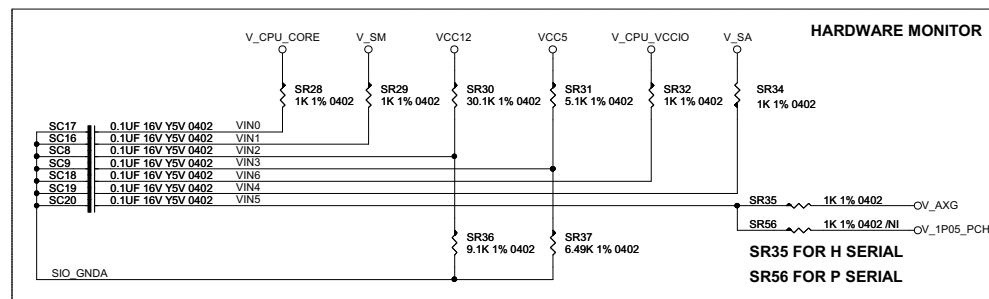
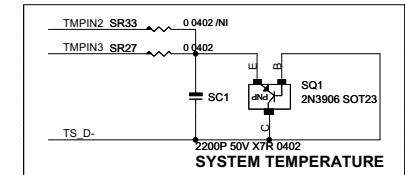
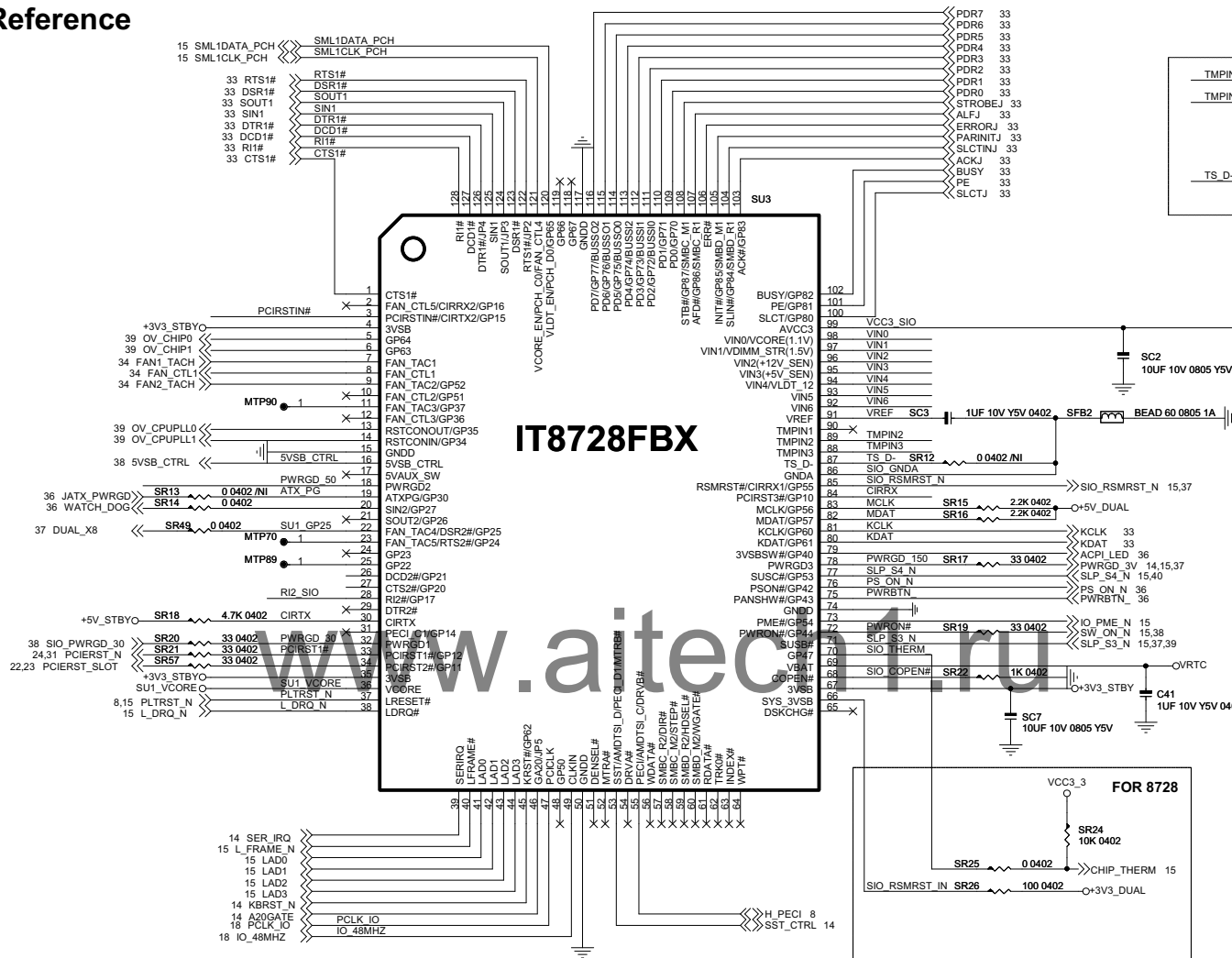
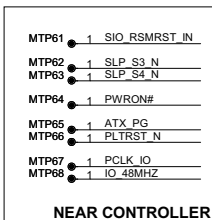
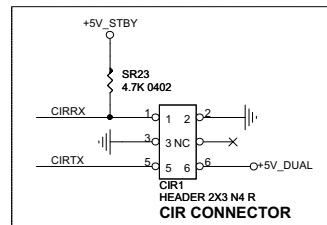
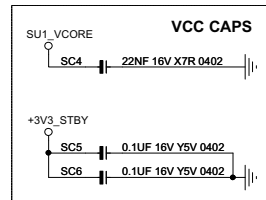
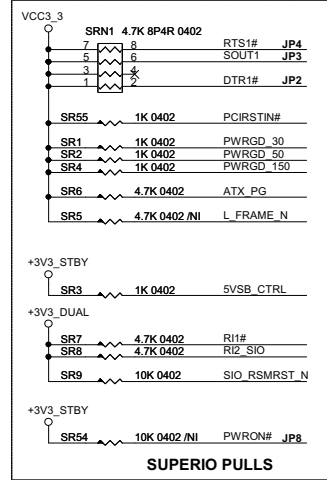
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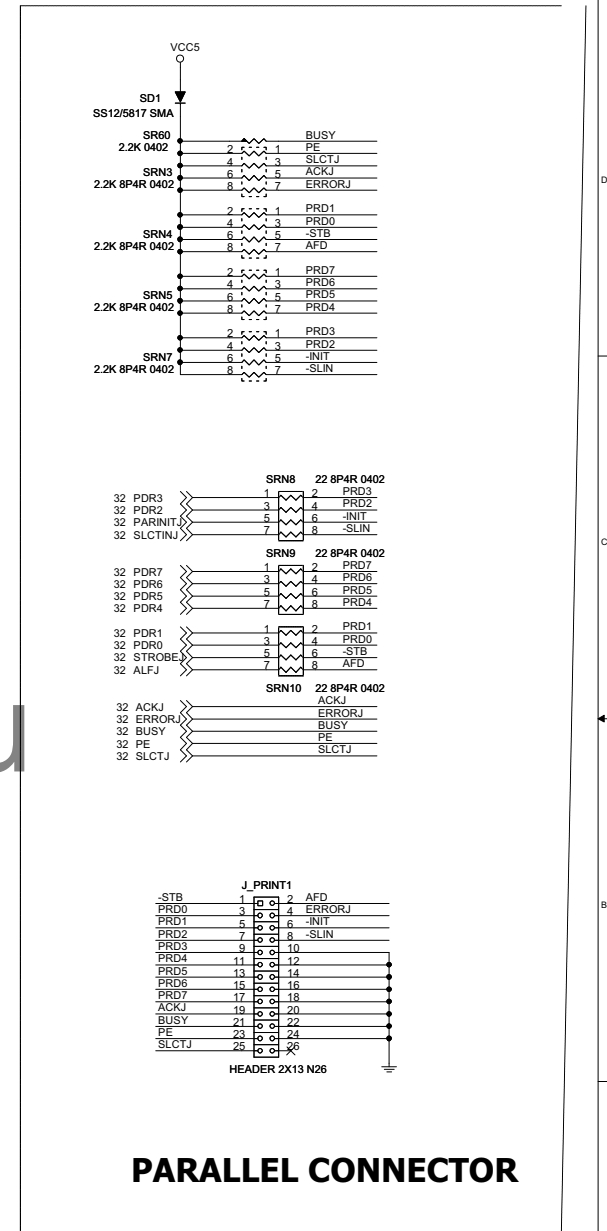
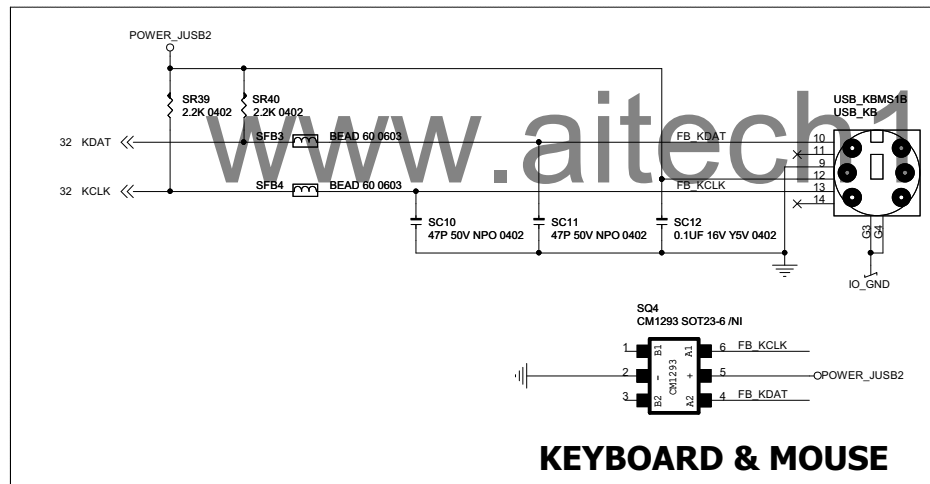
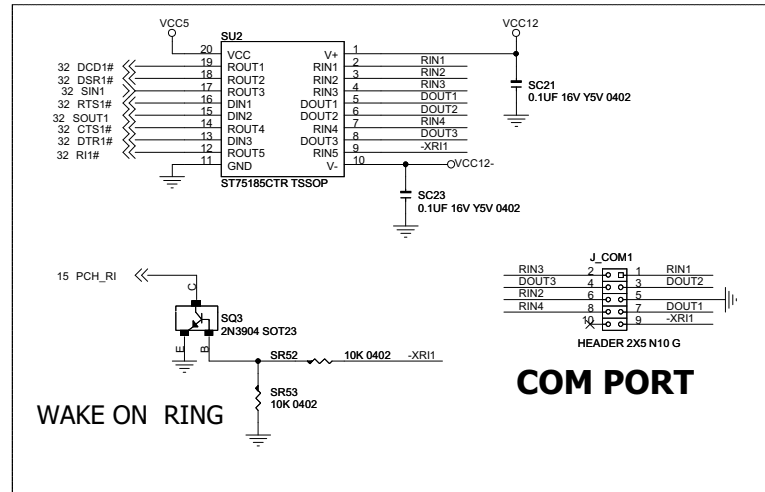
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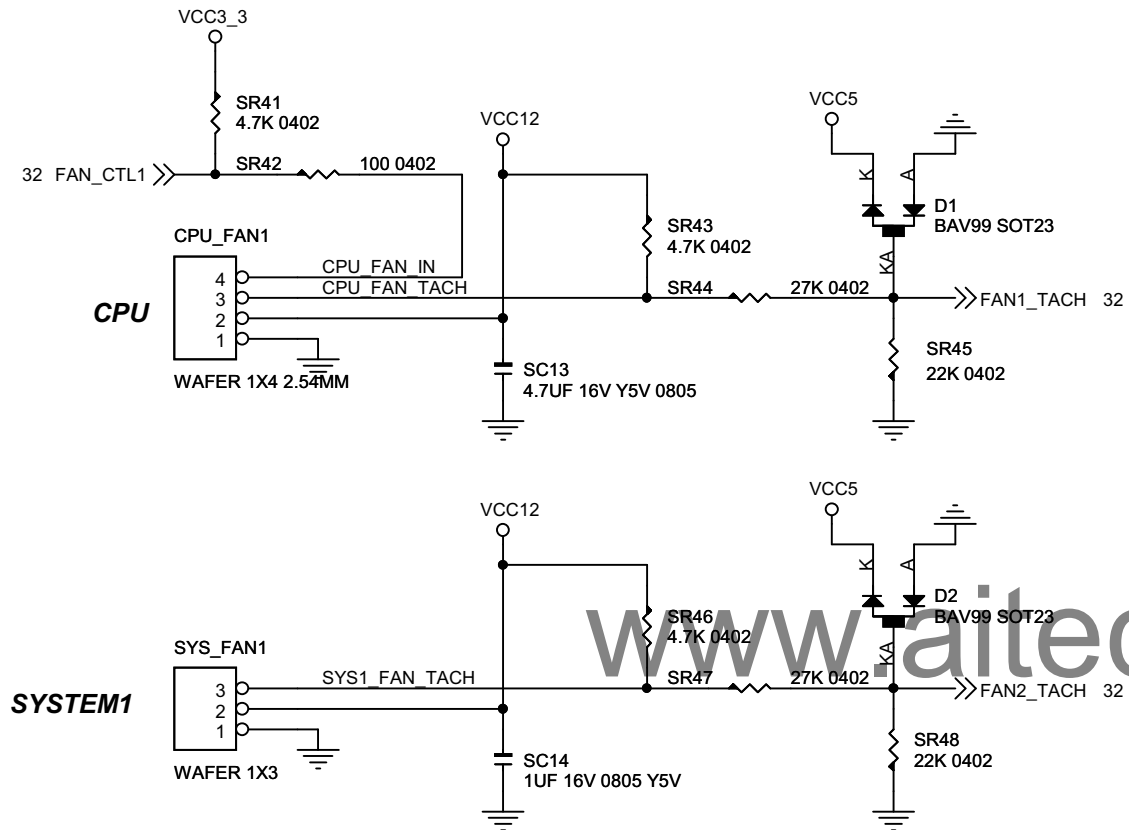
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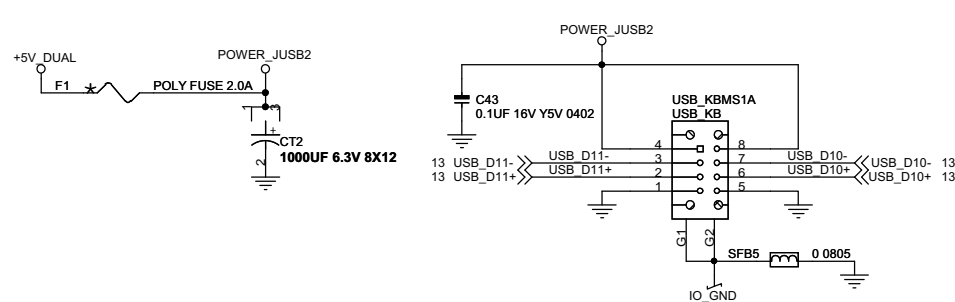
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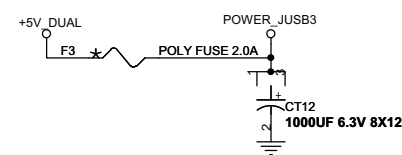
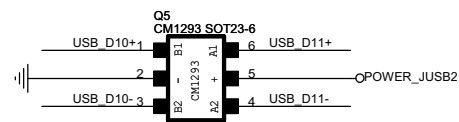


CPU FAN/SYSTEM FAN1/SYSTEM FAN2

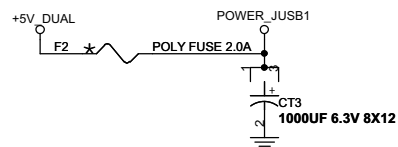
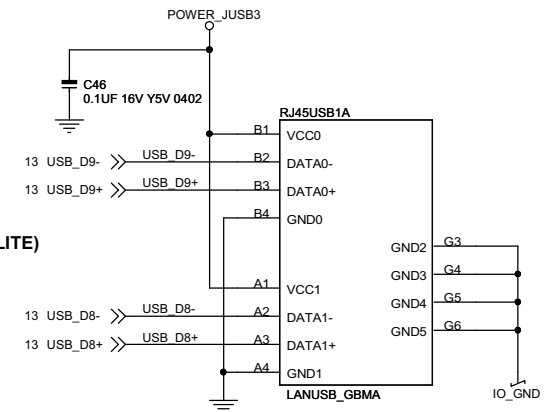
		
映泰股份有限公司 BIOSSTAR GROUP HW MONITOR/FAN CONTROL		
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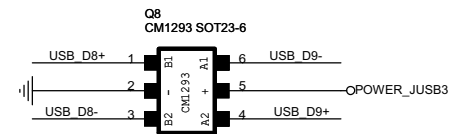
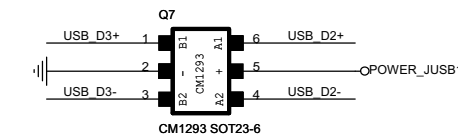
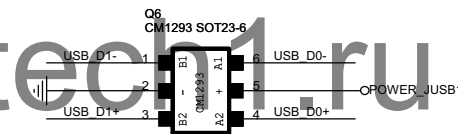
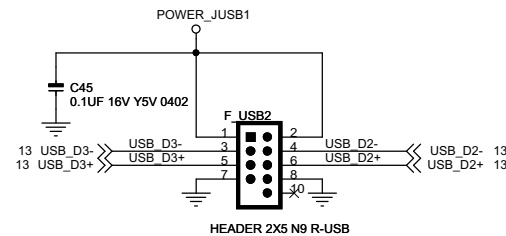
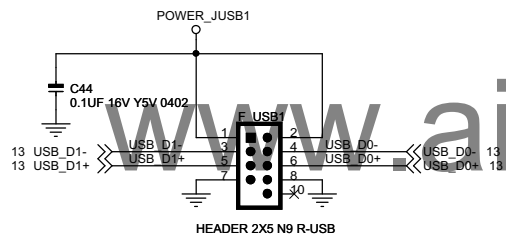
For T-Series-----560UF-S 6.3V 6.3X8 8X12(ELITE)
For NO T-Series-----1000UF 6.3V 8X12



For T-Series-----560UF-S 6.3V 6.3X8 8X12(ELITE)
For NO T-Series-----1000UF 6.3V 8X12

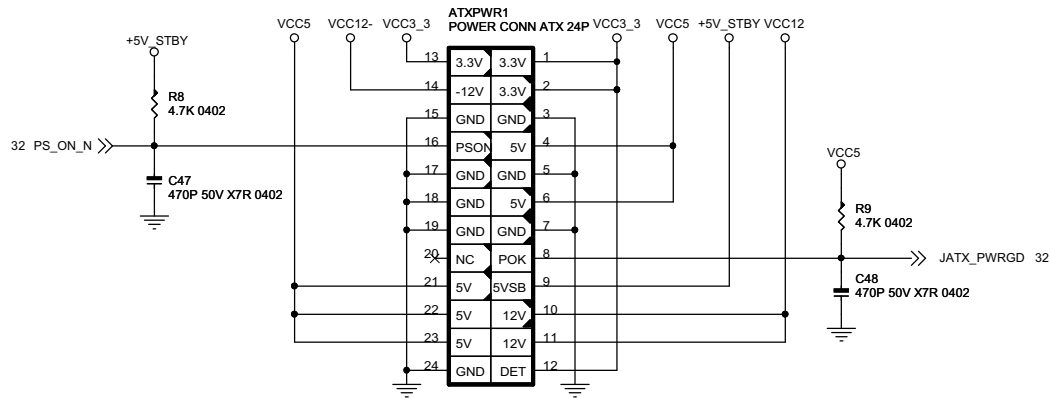


FRONT PANEL USB

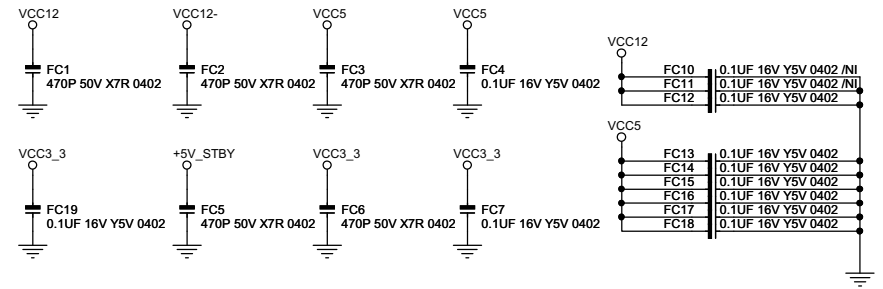


24 PIN POWER CONNECTOR

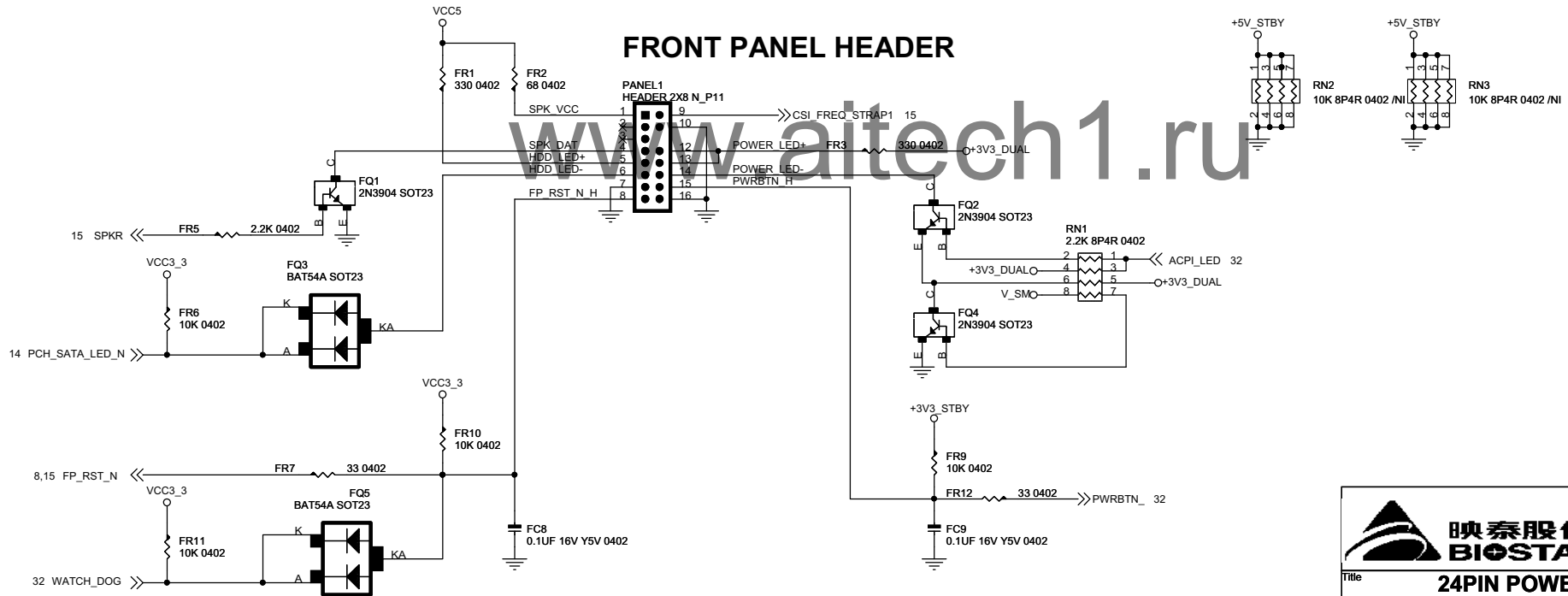
JATXPWR

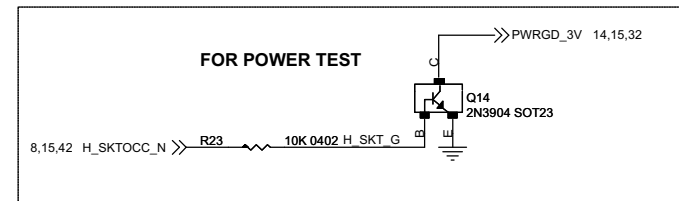
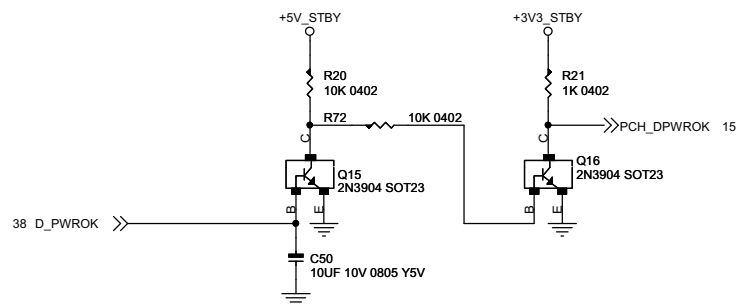
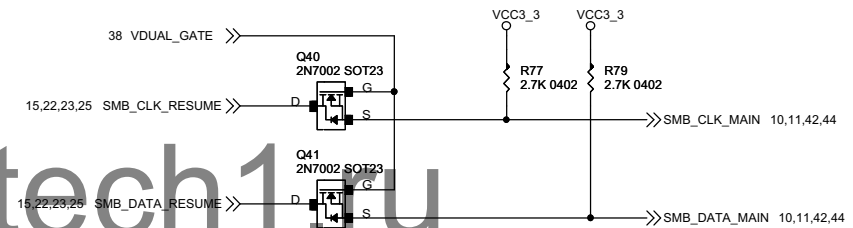
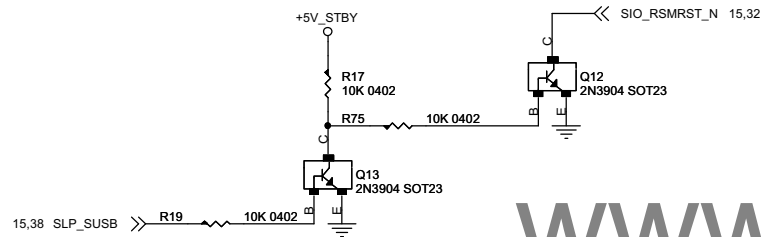
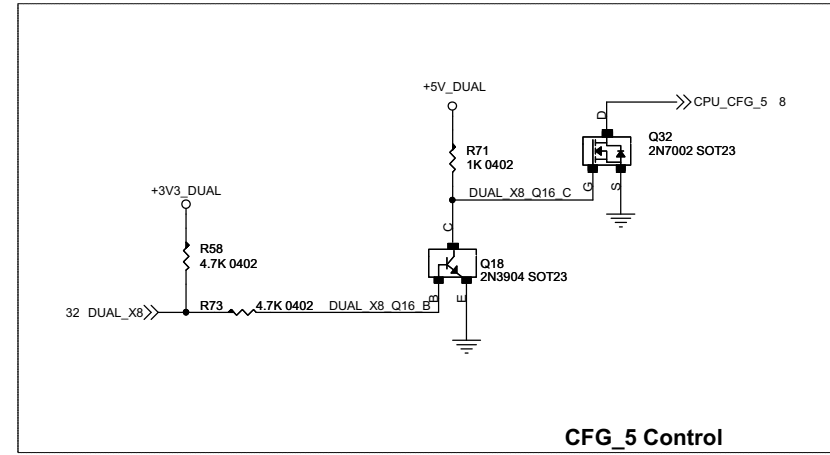
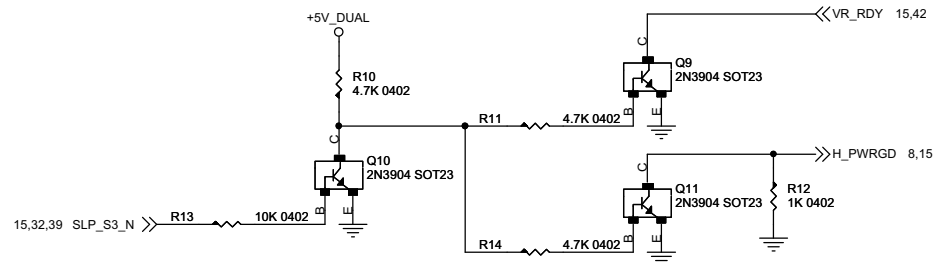


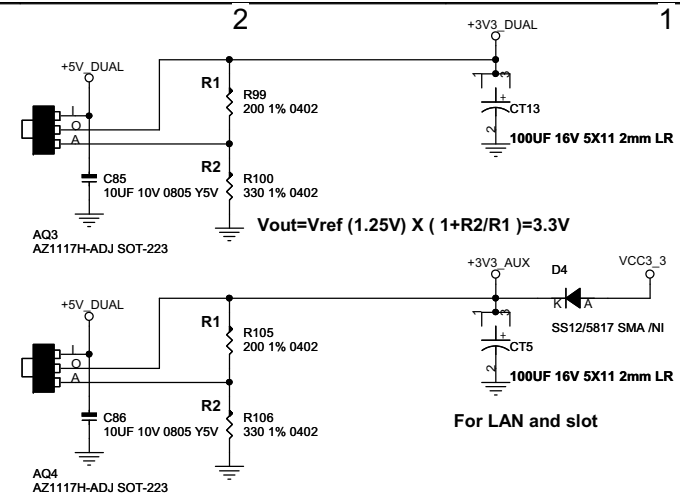
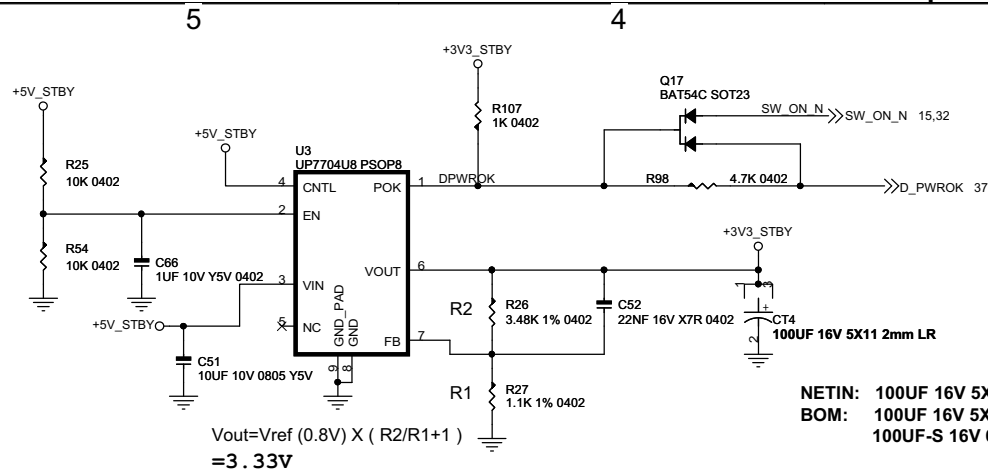
FOR EMI near power conn.



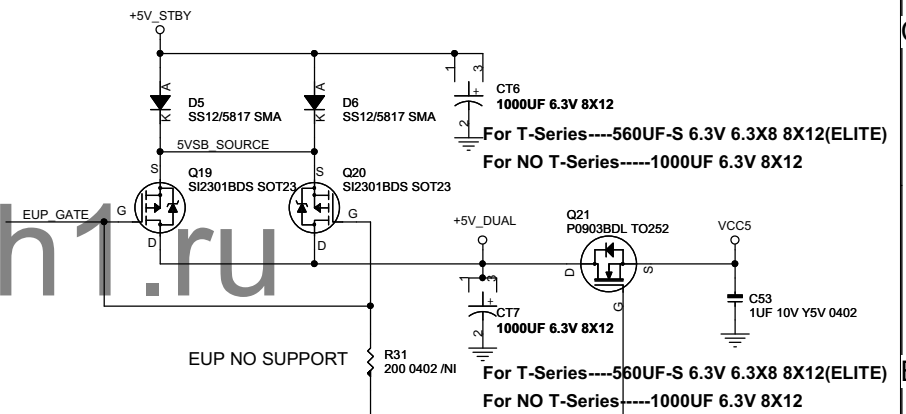
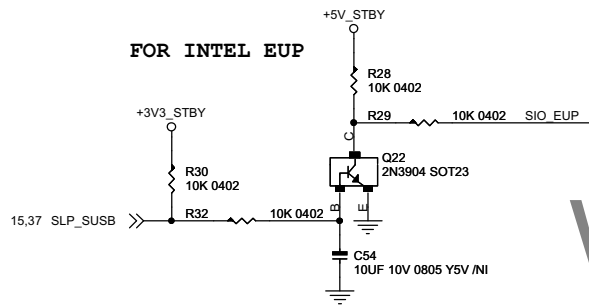
FRONT PANEL HEADER



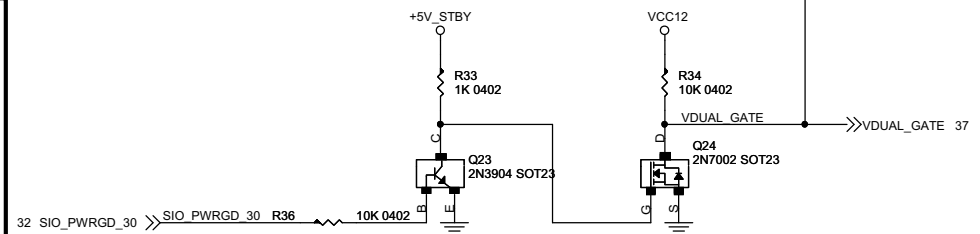
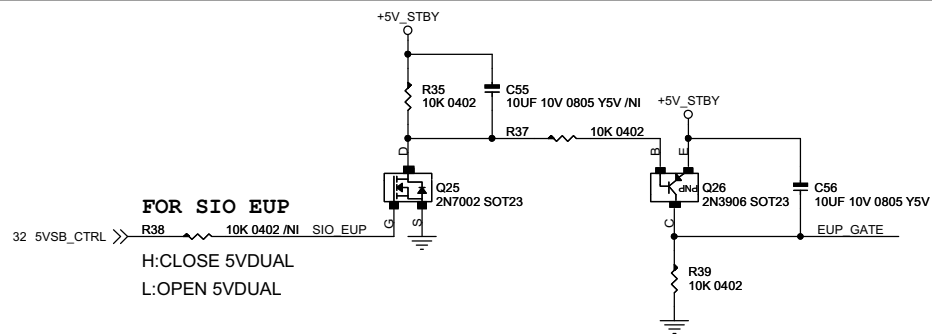




FOR INTEL EUP



FOR SIO EUP

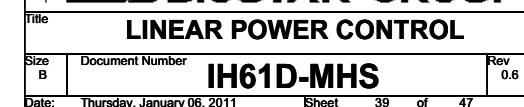


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ACPI POWER CONTROL		
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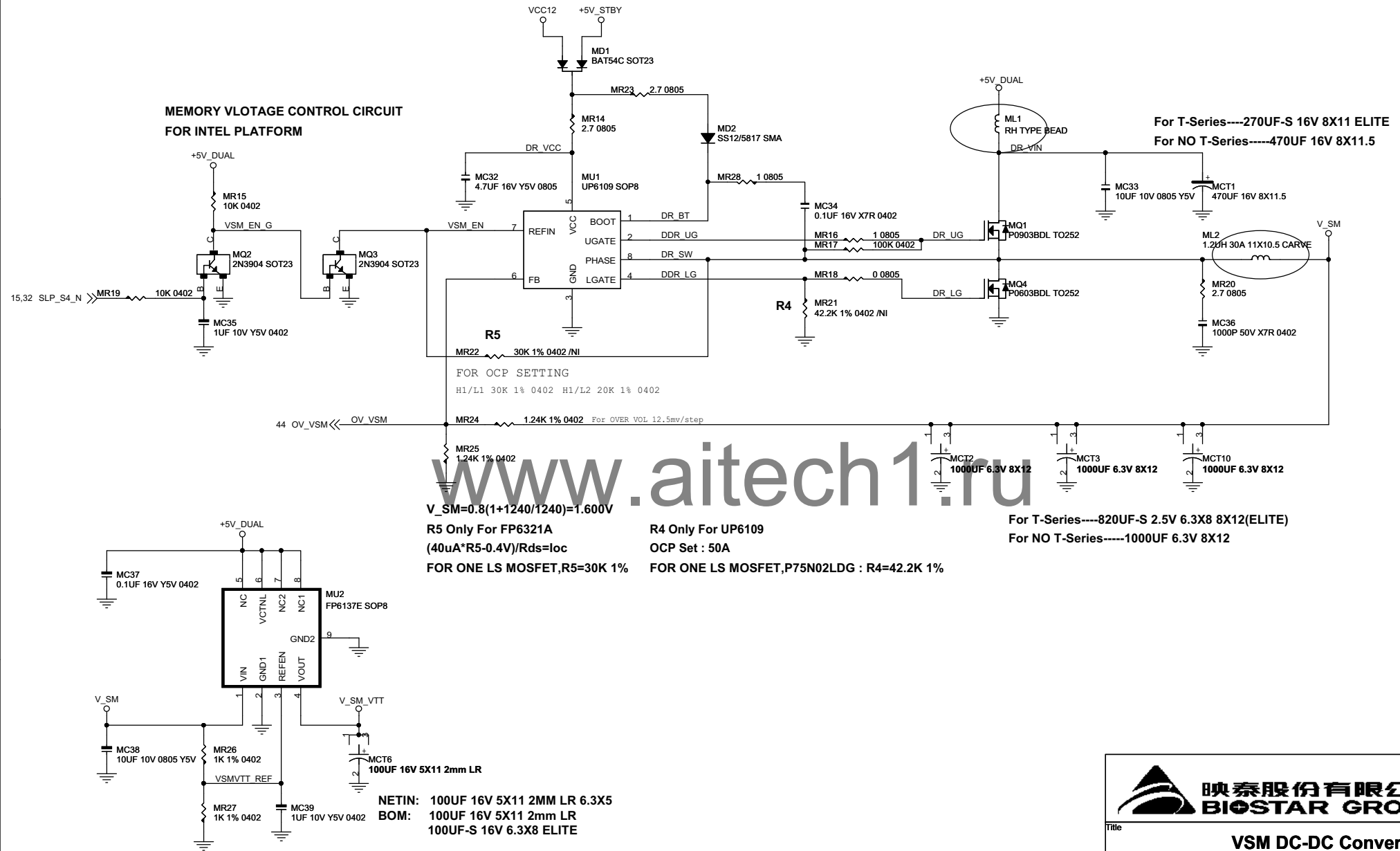


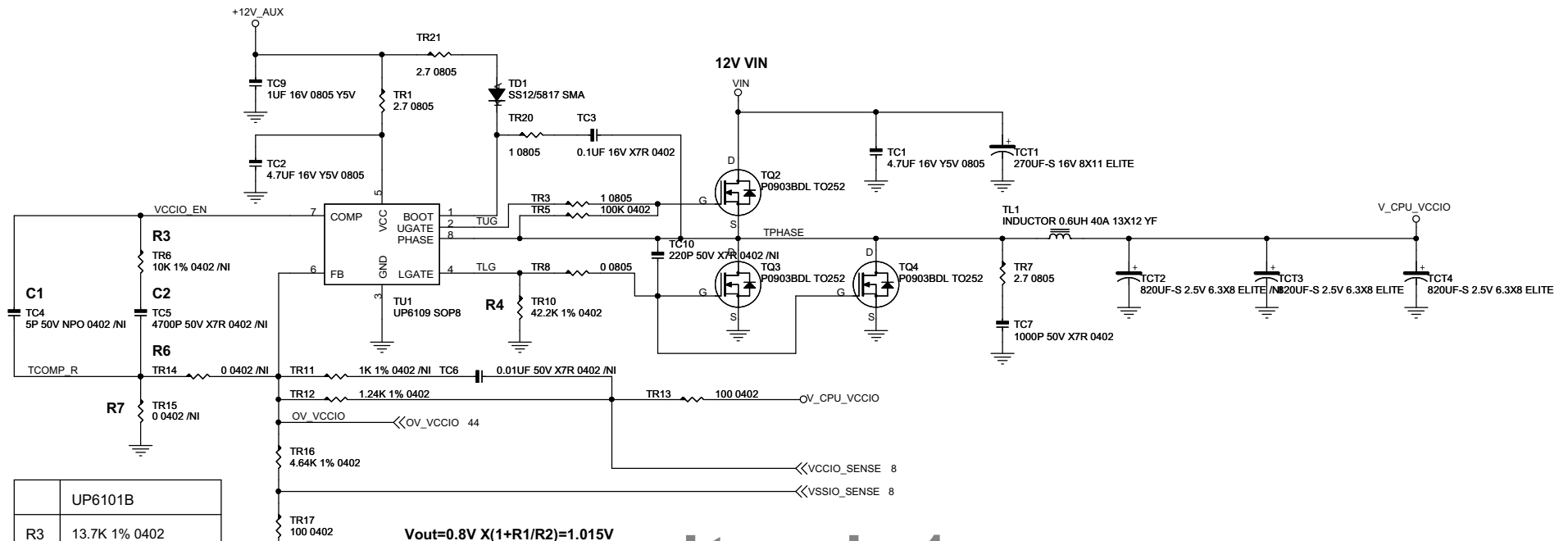
VCPUPLL1	VCPUPLL0	V_1P8_SFF
0	0	2.1V
0	1	2.0V
1	0	1.9V
1	1	1.8V

For NO T-Series-----1000UF 6.3V 8X12



MEMORY VLOTAGE CONTROL CIRCUIT FOR INTEL PLATFORM

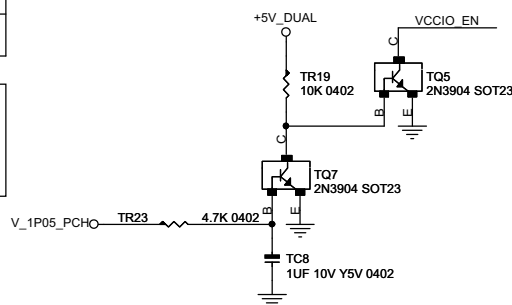




	UP6101B
R3	13.7K 1% 0402
R4	26.1K 1% 0402
R6	0 0402
R7	NI
C1	5P 50V NPO 0402
C2	4700P 50V X7R 0402

MTP78	1	VCCIO_EN
NEAR CONTROLLER		

$V_{out} = 0.8V \times (1 + R1/R2) = 1.015V$
 R4 Only For UP6109
 OCP Set : 50A
 FOR TWO LS MOSFET, P0903BDG : R4=26.1K 1%



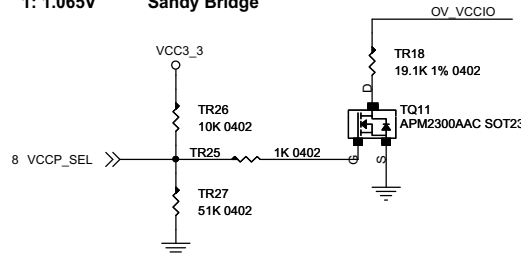
VCC_IO LEVEL SELECT

0: 1.015V

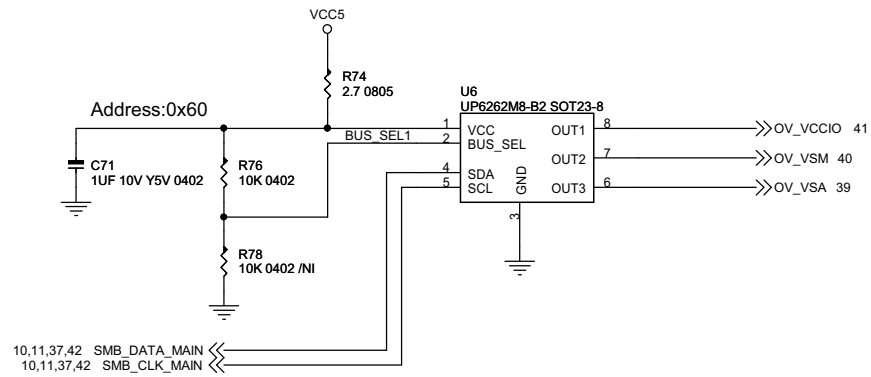
Ivy Bridge

1: 1.065V

Sandy Bridge







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5

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3

2

1

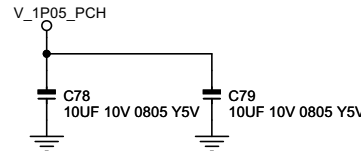
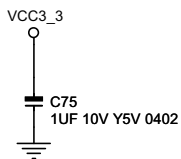
D


C

B

A

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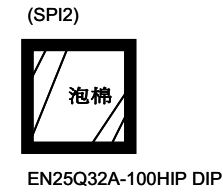
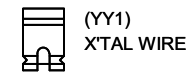
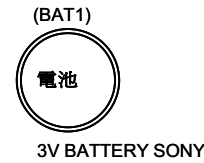
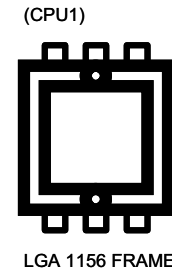
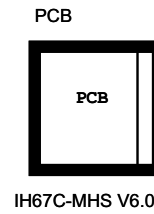
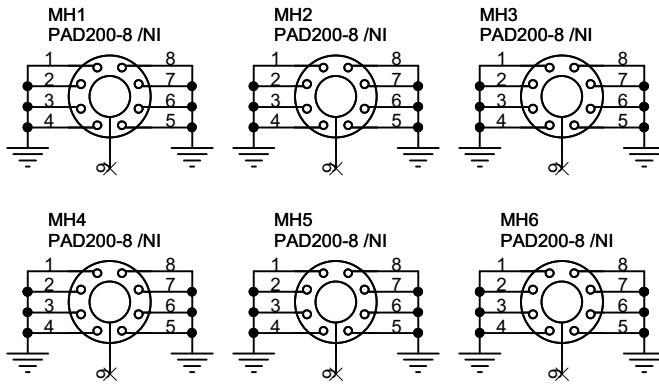
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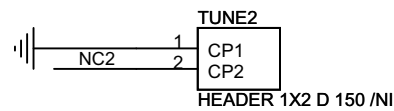
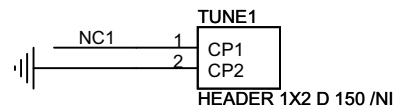
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Impedance Testing Coupon



New PANEL1
PANEL1 2*8

YELLOW COLOR

V0.6

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96-IH61DMHS-R01P-060

V6.0

86-IH61DMHS-R01P-60

96-IH61DMHS-R01P-60



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